
**UNITED STATES
SECURITIES AND EXCHANGE COMMISSION**
Washington, D.C. 20549

Form 10-K

(Mark One)

ANNUAL REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934

For the fiscal year ended December 31, 2015

or

TRANSITION REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934

For the transition period from _____ to _____.

Commission file number 001-36183

EIGER BIOPHARMACEUTICALS, INC.

(Exact name of registrant as specified in its charter)

Delaware
(State or other jurisdiction of
incorporation or organization)

350 Cambridge Avenue, Suite 350, Palo Alto, CA
(Address of principal executive offices)

33-0971591
(I.R.S. Employer
Identification No.)

94306
(Zip Code)

(650) 272 6138

(Registrant's telephone number, including area code)

Securities registered pursuant to Section 12(b) of the Act:

<u>Title of each class</u>	<u>Name of each exchange on which registered</u>
Common Stock, par value \$0.001 per share	The NASDAQ Global Market

Securities registered pursuant to Section 12(g) of the Act: None

Indicate by check mark if the registrant is a well-known seasoned issuer, as defined in Rule 405 of the Securities Act. Yes No

Indicate by check mark if the registrant is not required to file reports pursuant to Section 13 or Section 15(d) of the Act. Yes No

Indicate by check mark whether the registrant (1) has filed all reports required to be filed by Section 13 or 15(d) of the Securities Exchange Act of 1934 during the preceding 12 months (or for such shorter period that the registrant was required to file such reports), and (2) has been subject to such filing requirements for the past 90 days. Yes No

Indicate by check mark whether the registrant has submitted electronically and posted on its corporate Website, if any, every Interactive Data File required to be submitted and posted pursuant to Rule 405 of Regulation S-T (§229.405 of this chapter) during the preceding 12 months (or for such shorter period that the registrant was required to submit and post such files). Yes No

Indicate by check mark if disclosure of delinquent filers pursuant to Item 405 of Regulation S-K is not contained herein, and will not be contained, to the best of registrant's knowledge, in definitive proxy or information statements incorporated by reference in Part III of this Form 10-K or any amendment to this Form 10-K.

Indicate by check mark whether the registrant is a large accelerated filer, an accelerated filer, a non-accelerated filer, or a smaller reporting company. See the definitions of "large accelerated filer," "accelerated filer" and "smaller reporting company" in Rule 12b-2 of the Exchange Act.

Large accelerated filer

Accelerated filer

Non-accelerated filer (Do not check if a smaller reporting company)

Smaller reporting company

Indicate by check mark whether the registrant is a shell company (as defined in Rule 12b-2 of the Act). Yes No

The aggregate market value of voting and non-voting common stock held by non-affiliates of the registrant as of June 30, 2015 totaled approximately \$26,431,475 based on the closing price of \$1.26 as reported by the NASDAQ Global Market.

The number of outstanding shares of the registrant's common stock, par value \$0.001 per share, as of March 23, 2016 was 6,945,424.

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Eiger BioPharmaceuticals, Inc.
Form 10-K
For the Fiscal Year Ended December 31, 2015

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PRESENTATION NOTE: We implemented a 1-for-15 reverse stock split of our common stock on March 22, 2016. All share numbers and prices have been adjusted to reflect the reverse stock split.

PART I

Forward-Looking Statements

This Annual Report on Form 10-K, including the sections entitled “Business,” “Risk Factors” and “Management’s Discussion and Analysis of Financial Condition and Results of Operations,” may contain “forward-looking statements.” We may, in some cases, use words such as “anticipate,” “believe,” “could,” “estimate,” “expect,” “intend,” “may,” “plan,” “potential,” “predict,” “project,” “should,” “will,” “would” or the negative of those terms, and similar expressions that convey uncertainty of future events or outcomes, to identify these forward-looking statements. Any statements contained herein that are not statements of historical facts may be deemed to be forward-looking statements. Forward-looking statements in this Annual Report include, but are not limited to, statements about:

- the success, cost and timing of our product development activities and clinical trials;
- our ability to obtain and maintain regulatory approval for lonafamib, exendin (9-39) and ubenimex, and any of our future product candidates, and any related restrictions, limitations, and/or warnings in the label of an approved product candidate;
- our ability to obtain funding for our operations, including funding necessary to complete all clinical trials that may potentially be required to file a new drug application, or NDA, and a Marketing Authorization Application, or MAA, for our product candidates;
- the commercialization of our product candidates, if approved;
- our plans to research, develop and commercialize our product candidates;
- our ability to attract collaborators with development, regulatory and commercialization expertise;
- the size and growth potential of the markets for our product candidates, and our ability to serve those markets;
- the rate and degree of market acceptance of our product candidates;
- regulatory developments in the United States and foreign countries;
- the performance of our third-party suppliers and manufacturers;
- the success of competing therapies that are or may become available;
- our ability to attract and retain key scientific or management personnel;
- the accuracy of our estimates regarding expenses, future revenues, capital requirements and needs for additional financing;
- our expectations regarding the period during which we qualify as an emerging growth company under the Jumpstart Our Business Startups Act of 2012, or the JOBS Act; and
- our expectations regarding our ability to obtain and maintain intellectual property protection for our product candidates.

These forward-looking statements reflect our management’s beliefs and views with respect to future events and are based on estimates and assumptions as of the filing date of this Annual Report and are subject to risks and uncertainties. We discuss many of these risks in greater detail under “Risk Factors.” Moreover, we operate in a very competitive and rapidly changing environment. New risks emerge from time to time. It is not possible for our management to predict all risks, nor can we assess the impact of all factors on our business or the extent to which any factor, or combination of factors, may cause actual results to differ materially from those contained in any forward-looking statements we may make. Given these uncertainties, you should not place undue reliance on these forward-looking statements. Except as required by law, we undertake no obligation to publicly update any forward-looking statements, whether as a result of new information, future events or otherwise.

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ITEM 1. Business

Merger of Celladon Corporation and Eiger BioPharmaceuticals, Inc.

On March 22, 2016, Celladon Corporation (“Celladon”) and privately-held Eiger BioPharmaceuticals, Inc. (“Private Eiger”) completed a business combination in accordance with the terms of the Agreement and Plan of Merger and Reorganization (the “Merger Agreement”), dated as of November 18, 2015, by and among Celladon, Celladon Merger Sub, Inc., a wholly-owned subsidiary of Celladon (“Merger Sub”) and Private Eiger, pursuant to which Merger Sub merged with and into Private Eiger, with Private Eiger surviving as a wholly-owned subsidiary of Celladon. This transaction is referred to as “the merger” or “the Merger.” Immediately following the Merger, Celladon changed its name to “Eiger BioPharmaceuticals, Inc.” In connection with the closing of the Merger, our common stock began trading on The NASDAQ Global Market under the ticker symbol “EIGR” on March 23, 2016.

Overview

Prior to the Merger, Celladon was a biotechnology company historically focused on the development of cardiovascular gene therapy. As a consequence of the negative results from the Phase 2b clinical trial of its lead product candidate, MYDICAR® (AAVI/SERCA2a), referred to as the CUPID 2 trial, Celladon suspended further research and development of MYDICAR and its pre-clinical programs in 2015.

Eiger is a clinical stage biopharmaceutical company focused on bringing to market novel products for the treatment of orphan diseases. Since its founding in 2008, Eiger has worked with investigators at Leland Stanford Junior University, or Stanford, to identify novel targets across a diverse set of orphan diseases with high unmet medical need. Eiger evaluated a number of potential development candidates in pharmaceutical companies and through creative licensing, built a pipeline of well-characterized products to advance in targeted orphan diseases. Eiger’s pipeline includes three Phase 2 candidates addressing four distinct orphan diseases. The programs have several aspects in common: the disease targets represent conditions of high medical need which are inadequately treated by current standard of care; the therapeutic approaches are supported by an understanding of disease biology and mechanism as elucidated by Eiger’s academic research relationships; prior clinical experience with the product candidates guides an understanding of safety; and the development paths leverage the experience and capabilities of Eiger’s experienced, commercially focused management team. The pipeline includes Sarasar® (lonafamib) for hepatitis delta virus, or HDV, exendin (9-39) for severe hypoglycemia and Bestatin™ (ubenimex) for pulmonary arterial hypertension, or PAH, and lymphedema. Eiger plans to deliver Phase 2 data on all four programs over the course of the next one to three years beginning in 2016.

Eiger’s current project timelines, planned development and regulatory pathways are illustrated below. As discussed above, prior clinical experience by Eiger’s licensors with the product candidates has supported and guided Eiger’s understanding of safety in advancing these products in its clinical development programs. Specifically, Eiger in-licensed lonafamib from Merck Sharp & Dohme Corp, or Merck, in 2010, and licensed ubenimex from Nippon Kayaku Co., Ltd., or Nippon Kayaku, in 2015. Eiger has relied upon Merck and Nippon Kayaku’s prior Phase 1 clinical data, manufacturing and experience with these two molecules to file the Eiger INDs and proceed directly into Phase 2 clinical trials following authorization by the FDA.

Pipeline Timeline

Product	2016	2017
Indication		
Sarasar® (lonafarnib)		
Hepatitis Delta Virus	Phase 2	Phase 3
Exendin (9-39)		
Hypoglycemia	Phase 2	Phase 3
Bestatin™ (ubenimex)		
Pulmonary Arterial Hypertension	Phase 2	
Bestatin™ (ubenimex)		
Lymphedema	Phase 2	

Note: All dates represent Eiger's current expectations. Actual timing may vary.

Eiger's product candidate pipeline includes four Phase 2 programs:

- Lonafarnib is an orally bioavailable, small molecule in Phase 2 clinical trials for HDV infection and is Eiger's most advanced program. HDV is the most severe form of viral hepatitis for which there is currently no cure and no approved therapy. Chronic HDV infection can lead to a rapid progression to liver cirrhosis, a greater likelihood of developing liver cancer, and has the highest fatality rate of all the hepatitis infections.

Eiger in-licensed lonafarnib from Merck in 2010. Lonafarnib blocks the production of HDV virus particles by inhibiting a key step, called prenylation, in the virus life cycle. To date, over 100 HDV infected patients have been dosed with lonafarnib across international Phase 2 clinical trials. Lonafarnib has demonstrated dose-related activity in reducing HDV viral load both as a monotherapy and in combination with other agents. Lonafarnib boosted with ritonavir has demonstrated a reduction in HDV viral loads by two logs and three logs at four weeks and eight weeks, respectively. Lonafarnib boosted with ritonavir and combined with pegylated interferon alpha, or PEG-IFN-alpha, has demonstrated a reduction in HDV viral loads by 99.9%, or up to three logs, in four weeks. Multiple Phase 2 studies of lonafarnib are ongoing with endpoints of clearance of HDV virus and sustained virologic response, or SVR. The most common adverse events experienced with lonafarnib to date are gastrointestinal-related and include nausea, vomiting, and diarrhea.

Lonafarnib has been granted orphan drug designation by the U.S. Food and Drug Administration, or the FDA, and European Medicines Agency, or EMA. The potential market for HDV therapies in the United States and Western Europe is growing due to increased migration from regions where the disease is endemic, primarily from Eastern Europe, the Middle East, and Asia.
- Exendin (9-39) is the second most advanced product candidate in Eiger's pipeline, and Eiger is developing this candidate as a treatment for hypoglycemia associated with bariatric surgery. Hypoglycemia associated with bariatric surgery is a debilitating and potentially life-threatening condition for which there is currently no approved therapy. This disorder occurs more frequently in a subset of bariatric surgeries called Roux-en-Y gastric bypass (RYGB), where 5-10% of post-RYGB

patients experience and leads to frequent symptomatic hypoglycemia, where blood sugar levels are below 50 mg/dL, and results in glucose concentrations low enough to cause seizures, altered mental status, loss of consciousness, and even death. Gastric bypass procedures are widely performed and are increasing for medically complicated obesity, including obesity due to Type 2 diabetes.

To date, research at Stanford has generated results demonstrating clinical proof of concept in 18 patients suffering from gastric bypass surgery-induced hypoglycemia indicating that exendin (9-39) can potentially prevent post-prandial hypoglycemia in affected patients. Exendin (9-39) is a glucagon-like peptide-1, or GLP-1, receptor antagonist and has the potential to compete with endogenous GLP-1 and prevent excess insulin release. These data were generated using both intravenous and subcutaneous, or SC, formulation delivery developed by Stanford.

Pharmacokinetics from this Phase 2 SC study indicate that the SC formulation could enable once or twice a day pre-prandial dosing. Eiger is developing its own SC formulation and plans to initiate a Phase 2 dose-ranging trial in affected patients with its exendin (9-39) SC formulation in the first half of 2016. Eiger intends to seek orphan drug designation for exendin (9-39).

- Eiger's third product candidate is ubenimex for PAH. PAH a life-threatening disease characterized by increased pulmonary vascular resistance, heart failure and premature death.

Ubenimex is a well-characterized, oral, small-molecule inhibitor of leukotriene A4 hydrolase, or LTA4H, the enzyme responsible for converting the inflammatory mediator leukotriene A4, or LTA4, to leukotriene B4, or LTB4. Results of a preclinical study published in *Science Translational Medicine* (Tian, W. et al. "Blocking Macrophage Leukotriene B4 Prevents Endothelial Injury and Reverses Pulmonary Hypertension," *Sci Transl Med*, 2013; 5:1) by Stanford researchers have demonstrated that both LTB4 and LTA4H are elevated in animal models of PAH and human PAH disease. In that study, elevated LTB4 caused inflammation resulting in arteriole occlusion and hypertension in animal models of PAH. Targeted pharmacologic inhibition of LTB4, including ubenimex, reversed PAH disease in treated rat animal models; obstructed arterioles opened, cardiac function improved, and the animals survived. Based on the findings in these models that pathological inflammation may be important in the etiology of PAH, Eiger believes that ubenimex is an attractive candidate for clinical development. Ubenimex was granted orphan drug designation by the FDA and EMA for the treatment of PAH in the United States and Europe, respectively. In addition, Eiger was granted U.S. patent allowances for claims in PAH in September 2015. Eiger intends to begin enrollment in a Phase 2 clinical trial of ubenimex in patients with PAH in the first half of 2016.

Ubenimex was licensed from Nippon Kayaku, and Eiger has exclusive rights in the United States, Europe and certain other countries to develop ubenimex for PAH as well as other inflammatory diseases involving LTB4. Ubenimex has been marketed in Japan and other countries outside of Eiger's licensed territory by Nippon Kayaku for over 25 years for a different indication.

- Eiger's fourth program involves clinical development of ubenimex in lymphedema, which is a state of vascular functional insufficiency in which decreased clearance of interstitial fluid through the lymphatic vasculature leads to edema formation and to progressive, debilitating architectural alterations in skin and supporting tissues. There is no approved pharmacologic therapy. The current standard of therapy involves compression garments.

Researchers at Stanford have demonstrated for the first time that LTB4 is elevated in both animal models of lymphedema as well as human lymphedema and that elevated LTB4 is associated with tissue inflammation and impaired lymphatic function. In that research, applying inhibitors of LTB4 promoted physiologic lymphatic repair and reversed lymphedema in treated animals. Eiger is seeking orphan drug designation for ubenimex in lymphedema. Eiger intends to begin enrollment in a Phase 2 clinical trial of ubenimex in patients with lymphedema in the first half of 2016.

Eiger believes that its approach to clinical development enables achievement of early clinical signals in its Phase 2 programs and potentially reduces clinical risks and costs inherent in the drug discovery and development

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process. Eiger has a highly experienced management team whose members have, in the course of their prior employment, participated in the bringing of more than 20 product candidates through regulatory approval and into commercialization. Eiger plans to leverage its management team's breadth and depth of experience in clinical and regulatory drug development as well as market development and commercialization to identify potentially promising product candidates to address unmet medical needs.

Eiger's current product candidate pipeline has been created by in-licensing from pharmaceutical companies as well as Stanford. With its focus on orphan diseases, Eiger's strategy is to acquire and retain some or all commercialization rights to its products in significant territories to diversify risk, identify a rapid regulatory pathway to approval and minimize the development investment in order to maximize long-term value for its stockholders. Over time, depending upon the data and potential market opportunity, Eiger expects to establish a commercial organization, which Eiger believes can be targeted and cost effective for selected, promising orphan disease designated programs. Eiger plans to balance these interests with opportunities to enhance stockholder value through partnerships and other strategic relationships.

Business Model and Management Team

Eiger plans to continue evaluating in-licensing opportunities in order to enhance its pipeline and leverage its business development, clinical development, regulatory and commercial expertise. Eiger believes its management team has the capability and experience to continue to execute this model. Eiger's management team has worked in other private and public biotechnology companies such as Prestwick Pharmaceuticals, New River Pharmaceuticals, Clinical Data Inc., CoTherix and InterMune, each of which was acquired by a larger pharmaceutical industry company. Eiger's management also has previous work experience, in some cases working together, at pharmaceutical companies, including The Upjohn Company, Glaxo, Glaxo Wellcome, Glaxo Smith Kline, Arena Pharmaceuticals, Alza (Johnson and Johnson), Halozyme, Clinical Data Inc., New River Pharmaceuticals, Genentech and Gilead Sciences.

Eiger's Strategy

Eiger's mission is to identify, develop, and, directly or through collaborations, bring to market novel products that receive orphan drug designation for the treatment of rare diseases or conditions. Eiger currently has a diverse portfolio of well-characterized product candidates with the potential to address diseases for which the unmet medical need is high, the biology for treatment is believed to be understood, and for which an effective therapy is not available. Eiger's goal is to be a leader in the development and commercialization of novel therapeutics for serious unmet medical needs in orphan diseases. Eiger's focus to achieve this goal will be to utilize its experience and capabilities to:

- Advance its existing product candidates through late-stage clinical trials, generating meaningful clinical results;
- Work with U.S. and international regulatory authorities for expeditious, efficient development pathways toward registration;
- Prepare for commercialization of each program;
- Use Eiger's industry relationships and experience to source, evaluate and in-license well-characterized product candidates to continue pipeline development; and
- Identify potential commercial or distribution partners for Eiger's products in relevant territories.

Eiger's Product Candidates

Lonafarnib in HDV

Lonafarnib, brand named Sarasar[®], is a small molecule that Eiger in-licensed from Merck in 2010 that Eiger is advancing for the treatment of HDV infection. Lonafarnib is a well-characterized, orally active inhibitor of

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farnesyl transferase, an enzyme involved in modification of proteins through a process called prenylation. HDV uses this prenylation process inside host liver cells to complete a key step in its life cycle. Lonafamib inhibits the prenylation step of HDV replication inside liver cells and blocks the virus life cycle at the stage of assembly. Since prenylation is carried out by a host enzyme, there is a higher barrier to develop viral resistance mutations to lonafamib therapy. Eiger has generated clinical results in over 100 patients in Phase 2 trials, across international study sites, demonstrating rapid decreases in HDV viral loads and no resistance. Eiger is actively recruiting patients in additional Phase 2 trials of longer duration using lonafamib in combination with other antiviral therapies including ritonavir and PEG-IFN-alpha, with a goal of addressing HDV.

Hepatitis Delta Overview

About Hepatitis Delta

Hepatitis delta infection is caused by HDV a small circular ribonucleic acid, or RNA, virus that expresses only one protein, the hepatitis delta antigen, or HDAG. There are two forms of HDAG, small and large. Together, these two forms of HDAG and the single-stranded RNA genome are surrounded by a lipid envelope, which is embedded with Hepatitis B Virus, or HBV, derived surface antigen, or HBsAg, proteins. HDV does not encode its own envelope proteins and must acquire them from HBV during the final steps of replication. Hence natural HDV infections always occur in the presence of a co-existing HBV infection. HBsAg is the only element of HBV relied upon by HDV. HDV replication can occur independently of HBV replication.

Hepatitis delta is the most severe form of viral hepatitis. Hepatitis delta can be acquired either by co-infection (a simultaneous co-infection with HDV and HBV) or by super-infection (infection of someone already harboring a chronic HBV infection). Both co-infection and superinfection with HDV result in more severe complications compared to infection with HBV alone. These complications include a greater likelihood of experiencing liver failure in acute infections and a rapid progression to liver cirrhosis, with an increased chance of developing liver cancer in chronic infections. HDV has the highest fatality rate of all the hepatitis infections at up to 20%. Although HDV/HBV simultaneous co-infection in adults usually resolves completely, in some cases it can become fulminant, or rapidly severe, hepatitis. In the case of super-infections, the predominant form of HDV, HDV super-infection leads to a more severe form of disease than chronic HBV mono-infection. In a study published in 1987 in the *Journal of Infectious Diseases* (Fattovich, G. et al. "Influence of Hepatitis delta Virus Infection on Progression to Cirrhosis in Chronic Hepatitis Type B," *J Infect Dis*, 1987; 155:931), histological liver deterioration was observed in 77% of HBV patients co-infected with HDV over a 15-year follow-up period, versus 30% of patients infected with HBV alone ($p < 0.01$). In a 2013 study of chronic HBV patients published in the *Journal of Gastroenterology and Hepatology* (Gish, R. et al. "Coinfection with hepatitis B and D: epidemiology, prevalence and disease in patients in Northern California," *J Gastroenterol Hepatol*, 2013; 28(9):1521), cirrhosis was present in 73% of HBV patients co-infected with HDV, compared to only 22% of those infected with HBV alone. Patients co-infected with HDV are more than twice-as-likely to develop liver-related complications, cirrhosis, or require liver transplants than matched patients infected with HBV alone.

HDV is generally spread through exchange of body fluids either sexually or through contact with infected blood. Globally, it is estimated that between 4.3% and 5.7% of the 250 million worldwide chronic HBV population, or 15 to 20 million people, are infected with HDV. The prevalence of HDV in patients infected with chronic HBV is even higher in certain regions, including certain parts of Mongolia, China, Russia, Central Asia, Pakistan, Turkey, Africa, and South America, with an HDV prevalence as high as 60% being reported in HBV-infected patients in Mongolia and Pakistan. The prevalence of HDV has recently begun to increase in Western Europe and the United States due to migration from countries with high infection rates.

The Role of HDV Screening in Identifying Patients Who May Benefit From Lonafamib

There are diagnostic tests in use today in clinical laboratories to detect anti-HDV antibodies in serum. These tests are currently able to detect acute HDV infections after four weeks, but they are poor tests for active HDV infections. Active HDV infections are best detected by reverse transcriptase-polymerase chain reaction, or RT-

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PCR, assays for genomic RNA. These assays yield a quantitative assessment of the number of viral particles or viral load in serum. A commercial assay for quantitative HDV RNA is currently available in Europe. A commercial assay for quantitative HDV RNA is not yet available in the United States.

Eiger has developed an HDV RNA quantitative assay that has been calibrated using the World Health Organization HDV standard provided by the Paul Ehrlich Institute in Germany. Eiger has used this assay to quantitate HDV RNA in its Phase 2 trials. Eiger is facilitating transfer of its HDV RNA assay into commercial laboratories. By increasing the number of assays performed, Eiger believes it can increase the number of patients who can be identified and who will potentially benefit from an HDV therapy such as lonafamib.

In Eiger's initial discussions with payers, these payers have indicated that they would be willing to reimburse healthcare providers for HDV assays that are carried out sequentially following a positive HBsAg test for HBV. Eiger is in the process of transferring its assay to U.S. commercial labs and anticipates this assay being available on testing menus by the second half of 2016. If, due to Eiger's efforts and growing awareness of HDV as a health issue for HBV patients, screening for HDV becomes more widespread, this will have the effect of increasing the pool of patients who would be eligible for, and might benefit from, lonafamib.

Current Therapy for HDV

Currently, there is no FDA approved therapy for hepatitis delta infection. The American Association for the Study of Liver Diseases, or the AASLD, guidelines suggest treatment of chronic hepatitis delta infections with IFN-alpha, but this therapeutic regime usually requires injections of IFN-alpha over a prolonged period. In clinical trials of IFN-alpha or PEG-IFN-alpha, between 25% and 33% of HDV infected patients were able to clear their infections after a minimum of 48 weeks of therapy, with some requiring two years of therapy. However, long-term therapy with IFN-alpha is known to be associated with numerous adverse events and tolerability is a significant problem for some of these patients. HBV nucleoside analogs that inhibit HBV genome replication are ineffective against HDV since they are ineffective in suppressing the expression HBsAg. Other antiviral therapies have been tested, but none have been shown to be effective against HDV infection.

HDV Replication and Prenylation

After HDV enters a target cell hepatocyte, the genome is translocated to the nucleus where genome replication occurs and the two forms of HDAg small delta antigen, or SHDAg, and large delta antigen, or LHDAg, are produced. The newly formed HDV genome and the small and large delta antigen must acquire a lipid envelope from HBV to complete the assembly process. An important interaction between HDV and HBV proteins has been shown to depend on the presence of the last four amino acids of the large delta antigen, comprising a CXXX box motif, where C represents cysteine and X denotes any other amino acid. This amino acid sequence is required for LHDAg to be prenylated by a host enzyme which covalently attaches a 15-carbon prenyl lipid (farnesyl-moiety) to the cysteine of the CXXX box. Prenylation of the large delta antigen renders it more lipophilic, promotes its association with HBsAg and is essential for initiating the HDV particle formation process. Eiger's approach involves targeting this host process called prenylation, or protein farnesylation, which has been shown to be essential for the last steps in HDV replication, the assembly and release of new virus progeny.

In the 1980's farnesyltransferase inhibitors were developed by multiple pharmaceutical companies for oncology indications. Addition of a farnesyl or prenyl lipid group to the Ras protein, or Ras, a well-known and important regulator of cellular proliferation, allows for membrane association. Once membrane bound, Ras may then be activated. The importance of activated Ras in tumor development was demonstrated by sequence analyses of tumors from patients where up to 30% have mutations involving Ras. Several prenylation inhibitors were developed in oncology and taken into the clinic and in some cases through late-stage clinical development. However these programs did not lead to approvals, due to a lack of compelling efficacy. The class-related, dose-limiting toxicity has been gastrointestinal side effects including nausea, vomiting, and diarrhea.

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Published studies conducted by Stanford researchers demonstrated that farnesyltransferase inhibitors block HDV viral production both in cellular experiments and in HDV transgenic mice. Targeting prenylation or farnesyl transferase, a host target, significantly reduces the likelihood of HDV developing resistance to escape effects of antiviral therapy. Viruses mutate quickly and there is a higher rate of mutations in viral replication compared to mammalian cell division. However, no matter how much HDV may mutate, these changes do not alter the host process of prenylation which HDV requires to complete packaging. Thus, targeting a host prenylation process provides what Eiger believes to be a higher barrier to resistance. Identification of clinic-ready farnesylation inhibitors has allowed Eiger to move rapidly into proof-of-concept studies in humans.

Eiger's Solution: Lonafarnib for HDV

Lonafarnib is a well-characterized, orally active inhibitor of farnesyl transferase. Lonafarnib inhibits the prenylation step of HDV replication inside liver cells and blocks the ability of the virus to multiply. Since prenylation is a host process, not under control of HDV, and lonafarnib inhibits prenylation, Eiger believes that there is also a potentially higher barrier to resistance with lonafarnib therapy. Lonafarnib has been granted orphan drug designation in Europe and the United States, and lonafarnib in combination with ritonavir has been granted Fast Track designation from FDA for the treatment of chronic HDV infections. Eiger is currently conducting three Phase 2 clinical trials: LOWR HDV—2 (Ankara, Turkey), LOWR HDV—3 (NIH) and LOWR HDV—4 (Hannover, Germany). Eiger has filed and received approval for a U.S. IND and is conducting LOWR HDV—4 under this IND. Lonafarnib has never been approved or commercialized for any indication.

An orphan drug designation in the United States refers to a designation by the U.S. Food and Drug Administration, or FDA, granting seven years of marketing and treatment exclusivity to a product to treat a rare disease or condition (a disease affecting fewer than 200,000 people) that is clinically superior or otherwise makes a major contribution to patient care in a specified indication or rare disease or condition. In the European Union, the European Medicines Agency, or EMA, grants orphan drug designation with ten years of market exclusivity for diseases that are life-threatening or chronically debilitating and have a prevalence in the European Union of not more than 5 in 10,000, or it is otherwise unlikely that marketing would generate returns sufficient to justify the investment. Other countries have similar opportunities for exclusivity with respect to products addressing unmet medical needs.

Fast Track designation from FDA is a process to facilitate the development and expedite the review of drugs to treat serious conditions and fill an unmet medical need. A drug that receives Fast Track designation may be eligible to receive more frequent meetings with FDA to discuss the drug's development, more frequent written communication from FDA about the design of proposed clinical trials and biomarkers, eligibility for Accelerated Approval and Priority Review, if relevant criteria are met, and eligibility to have New Drug Applications, or NDAs, reviewed on a rolling basis.

Lonafarnib Clinical Data

Eiger in-licensed lonafarnib from Merck in 2010, and has relied upon Merck's prior Phase 1 clinical experience with lonafarnib to understand safety and pharmacokinetics.

Merck conducted four Phase 1 studies in 85 healthy volunteers to study food effect (study P00042), absorption, metabolism and excretion (study P00260), ketoconazole drug interaction (study P00393), and the effect of age and gender (study P02673) of lonafarnib.

In study P00042, administration of lonafarnib with food decreased the rate and extent of lonafarnib absorption in healthy subjects when administered as a single 100 mg dose of lonafarnib. The relative oral bioavailability of lonafarnib for subjects that ate prior to receiving lonafarnib compared to those that fasted prior to receiving lonafarnib was 48% based on measuring the maximum serum concentration, or C_{max}, and 77% based on measuring the concentration of the lonafarnib in the blood plasma over time, or AUC. However, administration of lonafarnib with food did not have a significant effect on lonafarnib bioavailability in subjects following

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multiple-dose administration. In addition, inter-subject variability was lower (~16%) following multiple-dose administration with food. Given the apparent lower incidence of gastrointestinal side effects and the lower inter-subject variability, results from P00042 study support dosing lonafamib with food.

Study P00260 was an absorption, metabolism and excretion study conducted in healthy volunteers following single-dose administration of lonafamib. Drug-derived radioactivity was primarily excreted via the feces. Mean cumulative excretion of radioactivity was 61% in feces and less than 1% in urine up to 24 hours post-dose. Metabolite profiles in plasma, urine, and feces showed that lonafamib was metabolized extensively. The common metabolic pathways included oxidation, dehydrogenation, and combinations of these two processes. The results of *in vivo* metabolic profiling and *in vitro* metabolism studies indicate that no human-specific lonafamib metabolites are formed.

Study P00393 was a two-way crossover study that was conducted in 16 healthy volunteers exploring the interaction of lonafamib with ketoconazole, an anti-fungal medication and a CYP3A4 inhibitor. Lonafamib is extensively metabolized by CYP3A4. Co-administration of single-dose lonafamib (50 mg) and multiple doses of ketoconazole (200 mg BID for 5 days) resulted in an approximately five-fold increase in lonafamib exposures, and an increase in the mean elimination half-life from 2.68 hours to 3.99 hours. Administration of lonafamib with ketoconazole was also associated with lower inter-subject variability than when lonafamib was administered with a placebo.

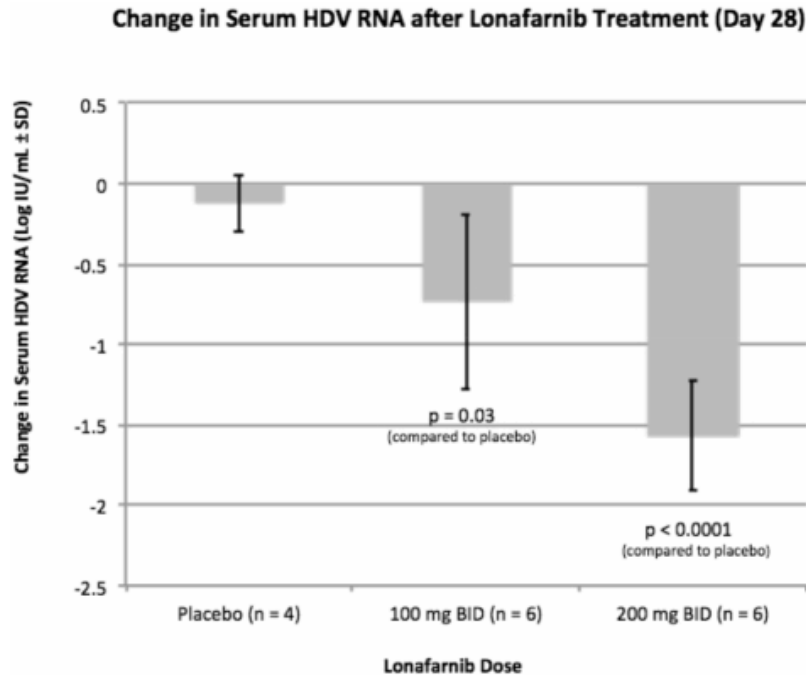
Study P02673 was a single-center, single-dose study conducted in 48 healthy volunteers (24 males and 24 females). Twenty-four of the subjects were between the ages of 18 and 45 and the other 24 subjects were 65 years old or older. Each subject received a single 100 mg dose of lonafamib in the morning after a standardized meal. PK data suggested that lonafamib exposures were higher in female subjects (44% higher) as compared to male subjects. Additionally, lonafamib exposures in subjects 65 years old or older were approximately 59% higher as compared to the younger healthy subject population. Young male subjects had the lowest lonafamib systemic exposures; AUC values in male subjects between the ages of 18 and 45 were approximately 50% lower than female and elderly subjects.

Eiger conducted a Phase 1 study with goals including: evaluating the effects of multiple-dosing of an antacid (proton pump inhibitor or H2-receptor antagonist) on the systemic absorption of a single dose of lonafamib, and evaluating the effects of multiple-dosing of lonafamib on the inhibition potential of the cytochrome P450 enzyme, CYP2C19. The Phase 1 study results demonstrated a weak effect on systemic absorption of lonafamib following administration of an antacid, which Eiger believes reduces the risk for the use of an antacid by patients treated with lonafamib to manage possible dyspepsia during treatment. These Phase 1 study results also demonstrated a weak effect of lonafamib on the systemic absorption of a sensitive CYP2C19 substrate, which Eiger further believes reduces the risk for the use of concomitant medications that are metabolized by CYP2C19 by patients treated with lonafamib.

In addition to the above Phase 1 studies, under Eiger's direction, lonafamib has been tested in three Phase 2 trials in over 100 HDV infected patients.

NIH Clinical Proof-of-Concept Phase 2a Study in HDV

The National Institutes of Health, or the NIH, conducted a 14 patient, double blind, placebo-controlled, proof of concept study, which was the first ever to evaluate lonafamib in patients infected with HDV. Patients either received lonafamib 100 mg (group 1) or lonafamib 200 mg (group 2) twice daily, or BID, for 28 days with 6 months of follow-up. Both groups enrolled six treatment participants and two placebo participants. The two placebo patients from group 1 later received open-label lonafamib as group 2 participants. Doses of 100 mg and 200 mg of lonafamib administered BID demonstrated a dose dependent decrease in viral loads of 0.73 and 1.54 log decline, respectively, in 28 days. The results were published in The Lancet Infectious Diseases Journal in 2015.



As shown in the table above, statistically significant decreases in HDV RNA viral load were demonstrated by both the 100 mg of lonafarnib BID ($p=0.03$) and 200 mg of lonafarnib BID ($p<0.0001$) active groups versus the placebo. A statistically significant correlation between increasing lonafarnib serum levels and decreasing HDV RNA viral loads was also demonstrated. The 100 mg twice daily dose was well-tolerated while GI intolerance such as nausea and diarrhea was experienced in the 200 mg twice daily dose. No resistant variants were identified from population-based sequencing of HDV infected patients after 28 days of treatment with lonafarnib.

A p-value is a statistical measure of the probability that the difference in two values could have occurred by chance. The smaller the p-value, the greater the statistical significance and confidence in the result. Typically, results are considered statistically significant if they have a p-value less than 0.05, meaning that there is less than a one-in-20 likelihood that the observed results occurred by chance. The FDA requires that sponsors demonstrate the effectiveness and safety of their product candidates through the conduct of adequate and well-controlled studies in order to obtain marketing approval. Typically, the FDA requires a p-value of less than 0.05 to establish the statistical significance of a clinical trial, although there are no laws or regulations requiring that clinical data be statistically significant, or that require a specific p-value, in order for the FDA to grant approval.

LOWR HDV—1 (Lonafarnib With and without Ritonavir) Phase 2 Study

The LOWR HDV—1 trial studied lonafarnib in 15 subjects who were enrolled into one of five groups comprised of three patients in each group, three groups receiving different doses lonafarnib monotherapy, lonafarnib in combination with ritonavir, and a group receiving lonafarnib in combination with PEG-IFN-alpha.

In lonafarnib monotherapy treatment groups, increasing the dosage of lonafarnib from 100 mg three times a day to 200 mg twice a day to 300 mg twice a day led to greater reductions in viral loads. Viral loads were reduced, after 28 days, from a 1.2 log decline in the patients dosed with 100 mg three times a day to 1.6 log

decline in patients dosed with 200 mg twice a day to a 2.0 log decline in the patients dosed with 300 mg of lonafarnib twice a day. However, doses greater than 100 mg BID led to increasing gastrointestinal, or GI, intolerance and were not considered to be ideal for longer term dosing.

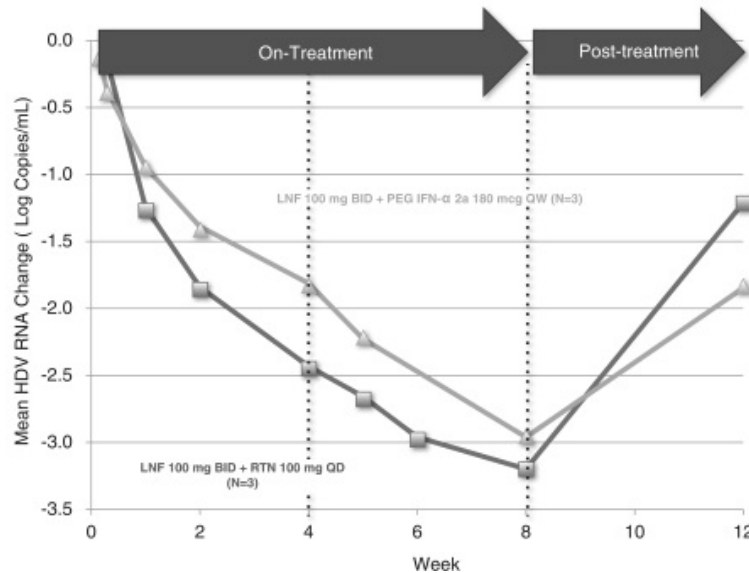
In the lonafarnib-ritonavir combination arm of LOWR HDV—1, 100 mg of lonafarnib BID was combined with 100 mg of ritonavir once daily. Ritonavir is a pharmacokinetic, or PK, enhancer known to inhibit the metabolism of lonafarnib, allowing lower doses of lonafarnib to be administered, while resulting in higher systemic concentrations of lonafarnib, and presumably higher liver concentrations of lonafarnib.

The addition of 100 mg of ritonavir once daily to 100 mg lonafarnib BID led to a four- to five-fold increase in the serum concentration of lonafarnib in treated patients compared to lonafarnib alone. This dose combination led to a greater reduction in viral load, compared to monotherapy treatment with 100 mg lonafarnib BID, with a mean decrease of 2.4 logs and 3.2 logs after 28 days and 56 days, respectively. Importantly, when therapy was discontinued the viral loads rebounded, which Eiger believes indicates that lonafarnib treatment was eliciting an antiviral effect.

The addition of 180 mcg of PEG-IFN-alpha once weekly to 100 mg lonafarnib BID was also more active in reducing HDV RNA versus either agent alone. This dose combination led to a greater reduction in viral load, compared to monotherapy treatment with 100 mg lonafarnib BID, with a mean decrease of 1.8 logs and 3.0 logs after 28 days and 56 days, respectively. Importantly, when therapy was discontinued the viral loads rebounded. The mean change in HDV RNA for the patients receiving eight weeks of treatment of 100 mg lonafarnib BID in combination with ritonavir and 100 mg lonafarnib BID in combination with PEG-IFN-alpha is shown below. LOWR HDV—1 was a dose-finding study conducted on a total of 15 patients, with three patients in each treatment arm. The study did not include a placebo arm and, as such, statistical significance could not be determined.

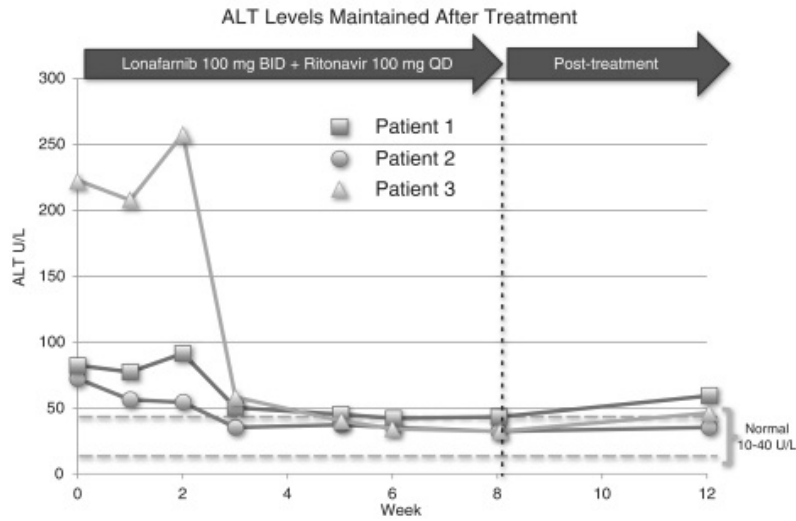
Rapid HDV RNA Decline with Lonafarnib Combos

-2 Log at Week 4 AND -3 Log at Week 8

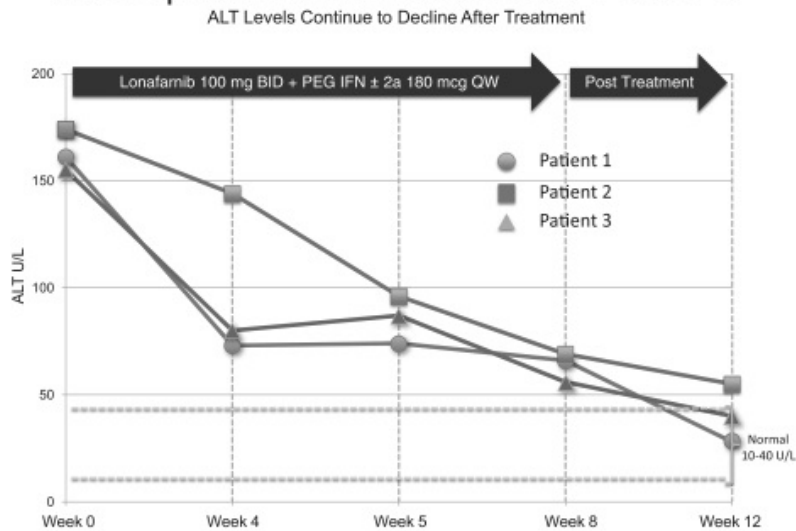


Liver enzymes are often elevated during infections with viral hepatitis, a sign of damage being done to liver cells. In both lonafarnib combination cohorts, all HDV patients enrolled had elevated alanine aminotransferase, or ALT, liver enzymes prior to receiving any treatment. By the end of eight weeks of combination therapy with lonafarnib and ritonavir or lonafarnib and PEG-IFN-alpha, all patients' ALT liver enzymes normalized or trended toward normal while on therapy. The figures below show the ALT levels, measured in units per liter, or U/L, for each of the patients receiving lonafarnib in combination with ritonavir and lonafarnib in combination with PEG-IFN-alpha.

Normalization of ALT on Lonafarnib + Ritonavir

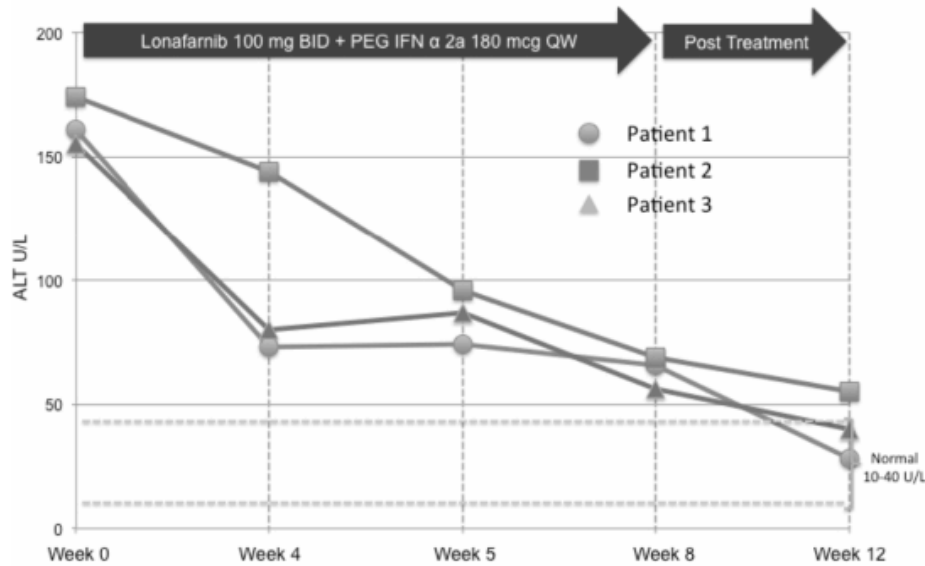


ALT Improvement of Lonafarnib + PEG IFN

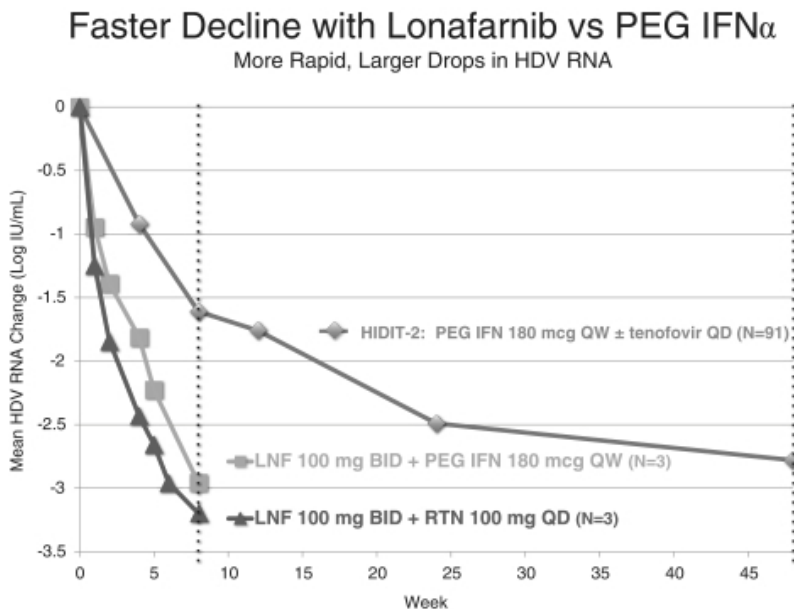


ALT Improvement of Lonafarnib + PEG IFN

ALT Levels Continue to Decline After Treatment



The results of LOWR HDV—1 study generated the most encouraging results to date in reducing HDV RNA in patients infected with hepatitis delta. In the three patients receiving lonafarnib in combination with ritonavir and the three patients receiving lonafarnib in combination with PEG-IFN-alpha, Eiger observed decreases in HDV RNA viral load of approximately 3.2 logs and 3.0 logs after eight weeks of treatment, respectively. For comparison, and as shown in the figure below, published data from the HIDIT-2 trial of PEG-IFN-alpha in 91 HDV infected patients demonstrated a mean decline in HDV RNA of approximately 1.6 logs and 2.7 logs after 8 weeks and 48 weeks, respectively. The HIDIT-2 (Hep-Net International Delta Hepatitis International Trial-II) was a multicenter randomized trial studying effects of PEG-IFN-alpha plus tenofovir in chronic HDV patients, and is the largest clinical study to date in HDV. The HIDIT-2 trial was conducted on 91 patients, whereas the LOWR HDV—1 study was conducted on an aggregate of 15 patients, with three patients per treatment arm. If the LOWR HDV—1 trial were conducted on a larger group of patients, the mean HDV RNA decline may differ from the 3.2 log and 3.0 log declines after eight weeks of treatment observed in the three patient arms receiving lonafarnib combination treatment in the LOWR HDV—1 trial. However, based on clinical results to date, Eiger expects all patients who are treated with lonafarnib to show a viral load response.



LOWR HDV—2 (Lonafarnib With Ritonavir) Phase 2 Study

LOWR HDV—2 is an ongoing “dose finding” trial to explore lonafarnib doses in combination with ritonavir and/or PEG-IFN-alpha. The goal of LOWR HDV—2 is to identify the lowest tolerable and effective dose of lonafarnib for longer duration therapy. Eiger believes that dosing durations of at least 24 weeks may be necessary to clear HDV RNA and to achieve SVR for HDV infection.

Thirty-seven subjects were enrolled into one of nine groups of different lonafarnib with ritonavir and/or PEG-IFN-alpha combinations for 12 to 24 weeks as follows: Group 1: LNF 100 mg bid and RTN 50 mg bid; Group 2: LNF 100 mg bid and RTN 100 mg qd; Group 3: LNF 150 mg qd and RTN 100 mg qd; Group 4: LNF 100 mg qd and RTN 100 mg qd; Group 5: LNF 75 mg bid and RTN 100 mg bid; Group 6: LNF 50 mg bid and RTN 100 mg bid; Group 7: LNF 50 mg bid and RTN 100 mg bid and PEG-IFN-alpha 180 mcg qw; Group 8: LNF 25 mg bid and RTN 100 mg bid; and Group 9: LNF 25 mg bid, RTN 100 mg bid and PEG-IFN-alpha 180 mcg qw. A low dose of lonafarnib 25 mg BID and 50 mg BID in combination with ritonavir 100 mg BID has proven to be tolerable and allowed for the addition of PEG-IFN-alpha. This triple dose combination has achieved the most robust mean HDV RNA viral load declines of greater than 3 logs after 28 days. Tolerability with this regimen was reported by investigators and patients to be acceptable, enabling more patients to remain on therapy for periods sufficient to possibly clear HDV RNA. Eiger plans to carry out dosing durations of up to 6 months. Eiger does not believe it has identified the lowest effective dose of lonafarnib.

LOWR HDV—2 is an open label study and results will be presented over time as the treatment phase of the study completes in the second half of 2016.

LOWR HDV—3 (Lonafarnib With Ritonavir) Phase 2 Trial

LOWR HDV—3 is an ongoing “duration” study to explore lonafarnib doses in combination with ritonavir for six months. Eiger’s Phase 2 placebo-controlled trial will test once daily doses of lonafarnib of 50 mg, 75 mg and 100 mg in combination with ritonavir 100 mg once a day for a duration of six months in 21 HDV patients,

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with seven HDV patients in each group. The goals of LOWR HDV—3 include dose ranging and longer duration therapy to determine reduction in HDV RNA, including the potential for clearance of HDV RNA.

Eiger completed enrollment of 21 patients at the NIH for LOWR HDV—3, and plans to follow patients for an additional six months post-treatment to assess long-term suppression of HDV viral loads. End of treatment (EOT) data is expected in the second half of 2016.

LOWR HDV—4 (Lonafarnib With Ritonavir) Phase 2 Trial

LOWR HDV—4 is a “dose titration” study to explore escalating lonafarnib dosed in combination with ritonavir for 6 months. The study is a Phase 2 open label trial in which patients will be given a starting dose of lonafarnib 50 mg BID in combination with ritonavir 100 mg BID. Patients demonstrating good tolerability will be allowed to titrate up to lonafarnib 75 mg BID at the investigator’s discretion. The fifteen HDV patients will be dosed for a duration of six months, followed by an additional six month post-treatment evaluation to assess long-term suppression of HDV viral loads. The goals of LOWR HDV—4 include the exploration of upward dose titration and longer duration therapy to determine reduction in HDV RNA in this time period, including the potential for clearance of HDV RNA. As noted above, Eiger believes that dosing durations of at least 24 weeks may be necessary to clear HDV RNA and to achieve SVR for HDV infection.

Eiger completed enrollment of 15 patients at the Hannover Medical Center for LOWR HDV—4, and EOT results are planned to be presented in the second half of 2016.

Potential for Registration in HDV for Lonafarnib

Eiger’s goal in developing lonafarnib is to reduce viral load in such a manner as to achieve clearance of the virus to SVR, the point where, upon withdrawal of the therapy, the infection does not return. Evidence that academic investigators have gathered suggests that combinations of lonafarnib with other antiviral agents may hold promise for longer duration treatment and sustained, long-term reduction of viral load.

Eiger also believes that treatment with lonafarnib in combination with other antiviral agents may contribute to long-term benefit for patients, which may represent an alternative path to regulatory approval. In a study published in Plos One in 2014 (Romeo, R. et al. “High Serum Levels of HDV RNA Are Predictors of Cirrhosis and Liver Cancer in Patients with Chronic Hepatitis Delta,” Plos One, 2014; 9:1), high serum levels of HDV were found to be a predictor of cirrhosis and liver cancer development. In a study published in Gastroenterology in 2004 (Farci, P. et al. “Long-Term Benefit of Interferon Therapy of Chronic Hepatitis D: Regression of Advanced Hepatic Fibrosis,” Gastroenterol, 2004; 126:1740), researchers demonstrated that lower frequencies of clinical events, leading to improvements in overall liver health and reductions in the rates of developing hepatic complications, could be achieved in HDV infected patients who were treated with IFN-alpha and who experienced as little as 2 log declines in viral load. A 2014 Hepatology study by Heidrich suggests that transient suppression of HDV replication improves the clinical long-term outcome, as not a single patient in their study with a posttreatment week 24 HDV RNA response experienced a clinical event, including those patients who experienced viral rebound. Eiger believes that these studies suggest that eradication of HDV RNA may not be necessary to achieve a substantial clinical benefit and improve long-term outcomes. Lower doses of lonafarnib, alone and in combination with other antiviral agents, have demonstrated tolerability for longer duration and possibly chronic dosing.

Exendin (9-39) for Hypoglycemia Associated with Bariatric Surgery

Exendin (9-39) is the second most advanced product candidate in Eiger’s pipeline. Exendin (9-39) is a glucagon-like peptide-1, or GLP-1, receptor antagonist. GLP-1 is a gastrointestinal hormone released after meals that binds to GLP-1 receptors, releasing insulin and lowering blood glucose levels. Exendin (9-39) blocks GLP-1 from binding to the GLP-1 receptor, preventing the steep fall in glucose levels. Eiger is developing exendin (9-

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39) as a treatment for hypoglycemia associated with bariatric surgery, which is low levels of glucose in the bloodstream caused by excess levels of insulin in the blood, associated with bariatric surgery, including gastric bypass surgery. This form of hypoglycemia is a debilitating and potentially life-threatening condition. Gastric bypass procedures are widely performed and are increasing in frequency for medically complicated obesity, including obesity due to Type 2 diabetes. There is no approved therapy for gastric bypass induced hypoglycemia and the unmet medical need is high.

Stanford researchers have demonstrated clinical proof of concept in 18 patients suffering from gastric bypass surgery induced hypoglycemia that exendin (9-39) can prevent an exaggerated fall in blood sugar following a meal, or post-prandial hypoglycemia, in affected patients. Data has been generated using both intravenous delivery and a novel SC formulation delivery. Pharmacokinetics indicate that the SC formulation could enable once or twice a day pre-prandial dosing. Eiger plans to initiate a Phase 2 multi-day dosing trial in affected patients with Eiger's exendin (9-39) SC formulation in the second quarter of 2016.

Hypoglycemia Associated with Bariatric Surgery Overview

As the use of bariatric surgical procedures has increased worldwide, a new post-surgical complication, hypoglycemia associated with bariatric surgery, has been increasingly diagnosed and reported in the procedures that involve reducing the size of the stomach with a vertical sleeve gastrectomy or by resecting and re-routing the small intestine to a small stomach pouch (Roux-en-Y). This disorder leads to frequent symptomatic hypoglycemia, often resulting in glucose concentrations low enough to cause seizures, altered mental status, loss of consciousness, cognitive dysfunction, disability and death. Quality of life can be severely diminished, and many patients cannot care for themselves or others, work, drive, or be left alone. There is no approved treatment for this condition. Severe cases have historically been surgically managed with near-total to total pancreatectomy, which results in insulin dependent diabetes and is associated with up to a 2-9% surgical mortality risk.

Research suggests that elevated GLP-1 may play an important role in hypoglycemia in post-bariatric surgery patients. Surgically-altered nutrient transit, such as a Roux-en-Y procedure, causes early nutrient sensing by the intestinal cells, resulting in enhanced secretion of GLP-1 leading to elevated insulin secretion. This effect may play a primary role in the early resolution of Type 2 diabetes after surgery. A number of synthetic agonist analogs of GLP-1, or agonists, have been approved for the treatment of Type 2 diabetes including Byetta™ (exenatide), Victoza™ (liraglutide), and Trulicity™ (dulaglutide). These drugs, all agonists, bind to the GLP-1 receptor and stimulate release of insulin. In patients with hypoglycemia associated with bariatric surgery, an excess secretion of GLP-1 results in excess insulin release and leads to severe debilitating hypoglycemia. GLP-1 receptor antagonists have the potential to compete with endogenous GLP-1 and prevent excess insulin release.

Approximately 150,000 to 200,000 bariatric surgical procedures are performed each year in the United States, and another 125,000 are performed each year in Europe. Approximately 30% of these bariatric surgeries are Roux-en-Y gastric bypass procedures.

Eiger's Solution: Exendin (9-39)

Exendin (9-39) is a well-characterized, competitive antagonist of GLP-1 at its receptor. Exendin (9-39) is a 31 amino acid fragment of exenatide, a commercially available GLP-1 agonist, brand named Byetta™ and used in the treatment of type 2 diabetes. Exendin (9-39) blocks the GLP-1 receptor and leads to reduced levels of insulin secreted by the pancreas. While exenatide has been approved for the treatment of type 2 diabetes, exendin (9-39), as a new molecular entity, has never been approved or commercialized for any indication.

Clinical Data to Date

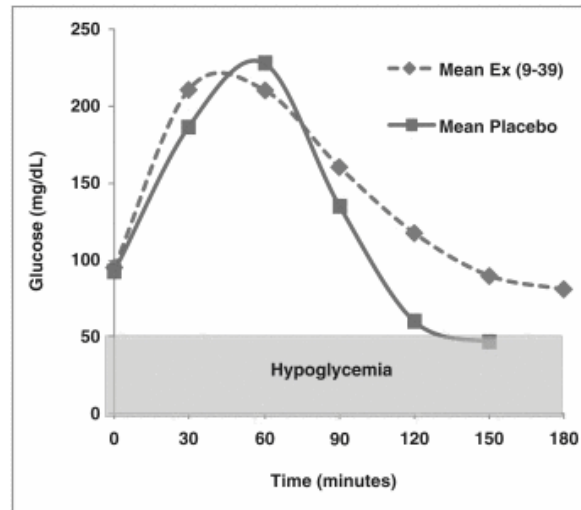
Stanford researchers have demonstrated in two placebo-controlled clinical trials with exendin (9-39) that pharmacologic blockade of the GLP-1 receptor prevents hypoglycemia in affected patients, and Eiger believes

that it may represent the first targeted medical treatment for patients with post-bariatric hypoglycemia. In these two single-dose studies, exendin (9-39) was tolerated with no observed side-effects. These Phase 1b studies were conducted under an investigator-initiated IND for the study of exendin (9-39) for bariatric surgery-induced hypoglycemia associated with bariatric surgery at Stanford.

The first exendin (9-39) study conducted at Stanford was a Phase 1b, double-blinded crossover study of eight patients with hypoglycemia following a Roux-en-Y procedure. Four patients were dosed with exendin (9-39) IV infusion and another four patients received a placebo infusion following an oral glucose tolerance test, or OGTT. The trial assessed patient blood glucose levels and the rate of glucose rise and fall. Hypoglycemia was defined as glucose levels falling below 50 mg/dL. Physicians who treat hypoglycemia associated with bariatric surgery recognize that the steeper the glucose rise and fall, the worsening of all symptoms including cognitive function and dumping syndrome. After dosing was completed, patients were sent home for a 1-7 day washout period and then crossed over to either placebo or exendin (9-39) for a total of 8 patients treated with exendin (9-39).

Each of the patients treated with exendin (9-39) mirrored glucose levels of healthy patients, with none of their glucose levels falling below 50 mg/dL. In contrast, every patient who received the placebo had a steep glucose fall, became hypoglycemic with glucose levels falling below 50 mg/dL, and had to be rescued with IV dextrose. The chart below shows the mean glucose levels of eight patients in the above trial. Patients receiving exendin (9-39) and the placebo infusion completed severity-grade questionnaires every 30 minutes during the 180 minute OGTT period. The severity-grade questionnaires showed that, on average, severe hypoglycemia associated with bariatric surgery patients who received an IV infusion of exendin (9-39) experienced fewer and less severe hypoglycemic symptoms compared to the group receiving the placebo infusion ($p < 0.001$). While symptoms reported by subjects during the glucose rise (from T=0 to peak glucose) were unchanged by exendin (9-39) infusion, symptoms reported during the glucose fall period (from peak to nadir glucose) were reduced ($p < 0.001$).

Exendin (9-39) IV Infusion Study Results



The second clinical proof of concept study, a Phase 2b clinical trial, was a single ascending dose, or SAD, study using an SC formulation in eight patients with hypoglycemia associated with bariatric surgery. Patients

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were dosed with a novel immediate release SC formulation of exendin (9-39) prior to an OGTT. The study assessed patient blood glucose levels as well as the rate of glucose rise and fall across all doses. The results of this study will be presented at the American Diabetes Association in June 2016.

Eiger intends to begin a Phase 2 clinical dose-ranging trial in the second half of 2016 using repeat dosing over three days with the immediate release SC injection of exendin (9-39).

Ubenimex for Pulmonary Arterial Hypertension

Ubenimex is a well-characterized, oral, small-molecule inhibitor of leukotriene A4 hydrolase, or LTA4H, the enzyme responsible for converting leukotriene A4, or LTA4, to leukotriene B4, or LTB4. LTB4 is a naturally occurring molecule involved in inflammation. Ubenimex has been marketed in Japan by Nippon Kayaku for over 25 years as an adjunct to chemotherapy agents to extend survival and to maintain remission after treatment for acute non-lymphocytic leukemia in adults.

Results of a preclinical study published in Science Translational Medicine (Tian, W. et al. "Blocking Macrophage Leukotriene B4 Prevents Endothelial Injury and Reverses Pulmonary Hypertension," Sci Transl Med, 2013; 5:1) by Stanford researchers demonstrated that both LTB4 and LTA4H are elevated in animal models of PAH and human PAH disease. Macrophages, a type of white blood cell that ingests foreign materials, accumulate around small arterioles of the lungs and synthesize excess LTB4. This causes programmed cell death, or apoptosis, of cells that line the interior surface of the pulmonary artery, pulmonary artery endothelial cells. Additionally, this causes proliferation and an increase in volume, or hypertrophy, of pulmonary arterial smooth muscle cells. Elevated LTB4 causes inflammation resulting in blockage of the arteries, or arteriole occlusion, and hypertension in animal models of PAH. Targeted pharmacologic inhibition of LTB4, including ubenimex, reversed PAH disease in all treated animals; obstructed arterioles opened, cardiac function improved, and the animals survived. Eiger therefore believes that ubenimex is a potential therapeutic candidate for treatment of PAH where pathological inflammation is believed to be important in the etiology of the disease.

All currently approved agents for PAH were originally developed as vasodilators, drugs that dilate blood vessels. Inflammation is now recognized as a primary component of PAH disease, which can lead to obstructed arterioles, vasoconstriction, and worsening cardiac function. Work published by Stanford researchers in Science Translational Medicine (Tian, W. et al. "Blocking Macrophage Leukotriene B4 Prevents Endothelial Injury and Reverses Pulmonary Hypertension," Sci Transl Med, 2013; 5:1) discusses a potentially novel therapeutic approach to PAH that may address the inflammatory component of PAH with the potential for disease modification. Eiger plans to conduct a clinical trial to explore if blocking the effects of LTB4 may be a useful new treatment for PAH. Eiger has received approval for a U.S. IND of ubenimex in PAH and plans to begin enrolling a Phase 2 clinical trial in early 2016.

Pulmonary Arterial Hypertension Disease Overview

PAH is a type of high blood pressure that affects the arteries in the lungs and the right side of the heart. PAH begins when tiny arteries in the lungs, called pulmonary arterioles, become narrowed, blocked or destroyed. This makes it harder for blood to flow through the lungs, and raises pressure within the arteries in the lungs. As the pressure builds, the heart's lower right chamber, or right ventricle, must work harder to pump blood through the lungs, causing the heart muscle to weaken and eventually fail. PAH is a progressive, life-threatening illness that meets criteria for orphan drug designation in the United States, European Union, and Japan.

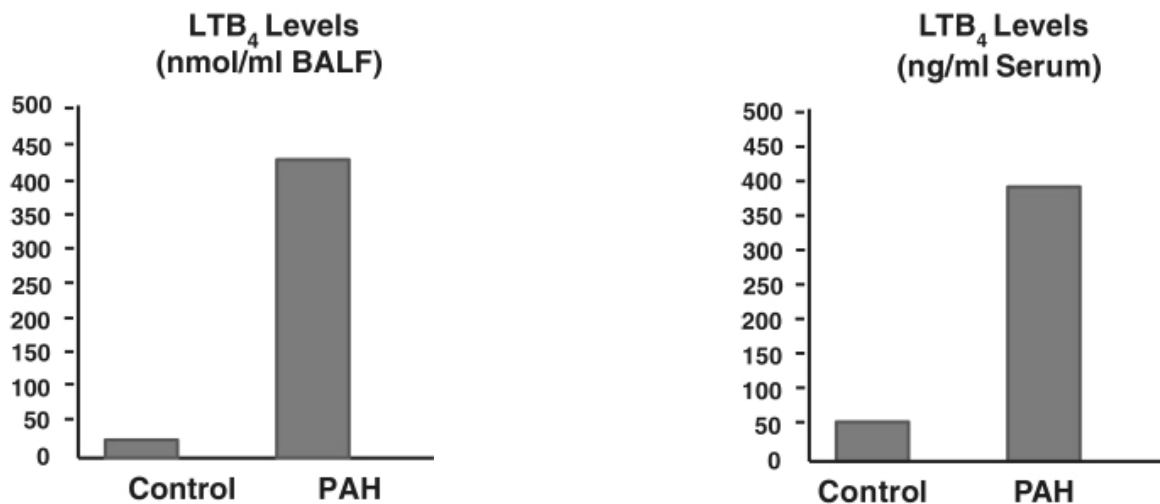
Current treatments for PAH

Initial treatments developed and used for PAH focus on reduction of hypertension with agents such as diuretics, calcium channel blockers, increasing cardiac output with agents such as digoxin, and various anticoagulation therapies. These therapies are all generic agents. A number of therapies specifically approved for

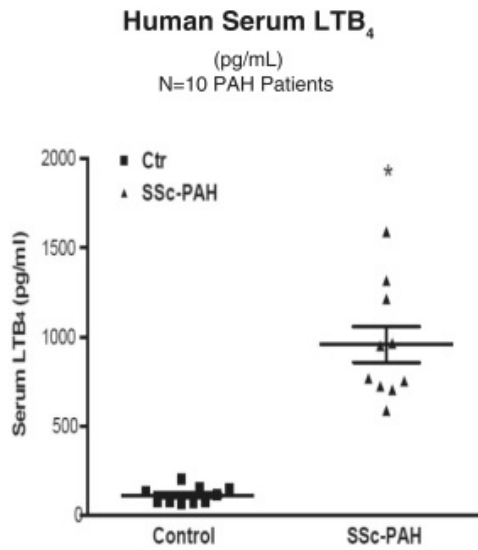
PAH, such as prostacyclin agonists, phosphodiesterase 5, or PDE5, inhibitors, guanylate cyclase stimulators, and endothelin receptor antagonists, target mechanisms that induce vasodilation. These therapies together represent approximately a \$4 billion annual market in the United States and Europe. Prostanoids such as epoprostenol, treprostinil and iloprost are stable versions of vasodilators that are naturally produced by the body and help compensate for low levels of prostacyclin production in some patients. PDE5 inhibitors such as sildenafil and tadalafil also work as vasodilators by increased signaling through the nitric oxide pathway. Other stimulators of this pathway include guanylate cyclase stimulators such as riociguat. Endothelin is a natural vasoconstrictor which binds to the endothelin receptors to elicit vasoconstriction. Antagonists of the endothelin receptor such as ambrisentan, bosentan, and macitentan have been approved for the treatment of PAH. Despite their premium pricing, these drugs are all considered to be palliative and not disease-modifying. Specifically, these drugs do not address the underlying causes of the disease, especially in PAH patients with connective tissue diseases, or CTD, or PAH patients with inflammation, highlighting the need for novel therapeutic approaches. An estimated 30,000 PAH patients and 15,000 PAH patients receive pharmacologic therapy in the United States and Europe, respectively.

Preclinical LTB₄ Data in PAH

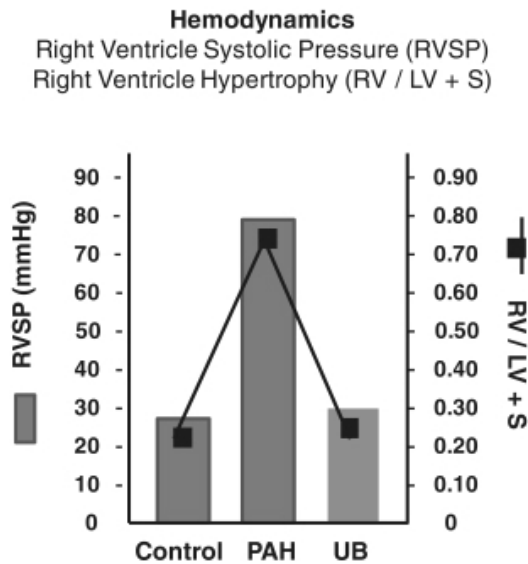
In animal models of PAH, LTB₄ was significantly elevated in both broncho-alveolar lavage fluid and in serum, suggesting that LTB₄ may play a key role in development of the pathology associated with PAH.



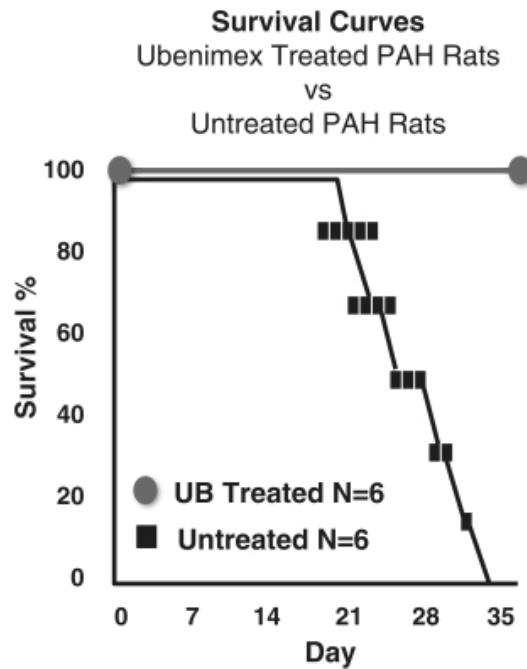
Significantly elevated levels of LTB₄ were also observed in serum from PAH patients, with the highest levels in patients with systemic sclerosis-related PAH, or SSc-PAH, identifying a link between the pathology of the animal model of PAH disease and human PAH disease.



In animal models of PAH, right ventricular systolic pressure is greatly elevated and there is hypertrophy of the right ventricle 21 days after induction of the disease. Treatment with ubenimex for 14 days reversed these effects, normalizing ventricular pressure and right ventricular size.



The activity of ubenimex in this PAH animal model is more pronounced when overall survival is examined. All of the animals tested in this model that received ubenimex survived until at least day 35, whereas none of the untreated animals survived.



Improvements in pressures and survival with ubenimex were seen in three distinct animal models of PAH disease: SU5416 induced-PAH in athymic rats, SU5416-induced PAH in hypoxia-induced PAH, and monocrotaline-induced PAH. Activity of ubenimex in treated animals correlated with LTB4 levels in the model.

Eiger’s Planned Solution: Ubenimex for PAH

Ubenimex is a well-characterized, oral, small-molecule, dual-inhibitor of aminopeptidase and LTA4H, the enzyme responsible for catalyzing the committed step in the formation of the proinflammatory mediator LTB4. Ubenimex is approved in Japan as an adjuvant to chemotherapy agents to extend survival and to maintain remission after treatment for acute non-lymphocytic leukemia in adults. Ubenimex has been used for over 25 years in Japan and remains commercially available through Nippon Kayaku. The FDA and EMA granted orphan drug designation to ubenimex for the treatment of PAH in the United States and Europe, respectively. Ubenimex is not approved for any indication in the United States or Europe.

Clinical Data to Date and Clinical Development Plan

Eiger in-licensed ubenimex from Nippon Kayaku in 2015 and has relied on Nippon Kayaku’s prior Phase 1 clinical data and experience with ubenimex to understand safety. Nippon Kayaku conducted four Phase 1 studies in healthy subjects and cancer patients to study metabolite determination, metabolism and excretion, drug absorption, and a pharmacokinetic study in lymphoma patients.

In the metabolite determination study, ubenimex was rapidly absorbed following oral administration of single doses ranging from 10 mg to 200 mg, reaching a maximum serum level between 30 minutes and three hours after dosing. Mean peak concentrations after 30 mg, 100 mg and 200 mg were 2.9 µg/mL at one hour, 2.5 µg/mL at three hours, and 7.4 µg/mL at two hours, respectively.

In the metabolism and excretion study, 84% to 94% of the administered doses of ubenimex was recovered in urine within 24 hours of dosing.

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In the absorption study, prolonged administration of ubenimex to cancer patients showed rapid absorption of the drug and maximum peak levels which ranged from 30 minutes to three hours in most patients. In a small study of eight patients receiving 30 mg of ubenimex daily, delayed α -phase decrease, an initial phase of rapid decrease of concentration of the drug in the plasma, was observed in patients with renal cancer compared to patients with bladder cancer, suggesting that clearance of ubenimex may be slower in patients with impaired renal function. The pharmacokinetics did not appear to change over time with repeated administration of ubenimex.

In a Phase 1b study performed in bone marrow transplant lymphoma patients in the United States, PK evaluation was performed in groups of ten patients receiving 10 mg of ubenimex QD, 30 mg of ubenimex QD, 30 mg of ubenimex three times a day, or TID, or 60 mg of ubenimex TID, in each case for up to 60 days. The mean AUC and C_{max} increased with increasing doses of 10 mg, 30 mg, 90 mg or 180 mg ubenimex daily. At all doses, no accumulation was apparent over the six days.

Eiger completed a pre-IND meeting at FDA in May 2014 where Eiger discussed both Phase 2 and Phase 3 clinical development plans for ubenimex in patients with PAH. Eiger subsequently filed an IND with FDA which was approved in September 2015 for the study to proceed. Eiger's planned Phase 2 trial for ubenimex in PAH will be called LIBERTY (A Randomized, Double-Blind, Placebo-Controlled Study of uBENimex in Patients with Pulmonary Arterial Hypertension) and is planned to enroll a total of approximately 45 patients with PAH in multiple centers. The trial will assess activity of ubenimex combined with standard of care treatment for PAH versus placebo combined with standard of care treatment for PAH. The primary endpoint will be a measure of change in pulmonary vascular resistance, or PVR, with secondary endpoints based on hemodynamic changes and exercise tolerance tests, including a six minute walk. Based on the proposed mechanism of action of ubenimex as a potential anti-proliferative, anti-inflammatory and disease modifying agent, dosing in the LIBERTY trial will be six months, which Eiger believes will be sufficient time to demonstrate activity. Eiger plans to initiate enrollment in LIBERTY in the first half of 2016.

Ubenimex for Lymphedema

A study conducted at Stanford demonstrated that LTB₄ is elevated in both animal models of lymphedema and human lymphedema. Elevated LTB₄ is associated with tissue inflammation and impaired lymphatic function. Targeted pharmacologic inhibition of LTB₄ promotes physiologic lymphatic repair and reverses lymphedema disease in treated animals.

Researchers at Stanford demonstrated a novel function of LTB₄ in the pathogenesis of lymphedema suggesting that blocking the effects of LTB₄ may be a promising and potentially safe new therapeutic strategy for this disease. Eiger intends to conduct a clinical study to explore if blocking the effects of LTB₄ may be useful as a new treatment for lymphedema.

Lymphedema Disease Overview

Lymphedema is the build-up of fluid in soft body tissues when the lymph system has been damaged or blocked. It is characterized by swelling due to abnormal transport of lymphatic fluid and thickening or hardening of the skin in affected areas. As fluid builds up, swelling occurs, usually in an arm or a leg, but can also affect other parts of the body. Lymphedema often causes long-term physical, psychological and social problems for patients and significantly impacts quality of life. There are currently no approved pharmacological treatments for lymphedema and the unmet medical need is high.

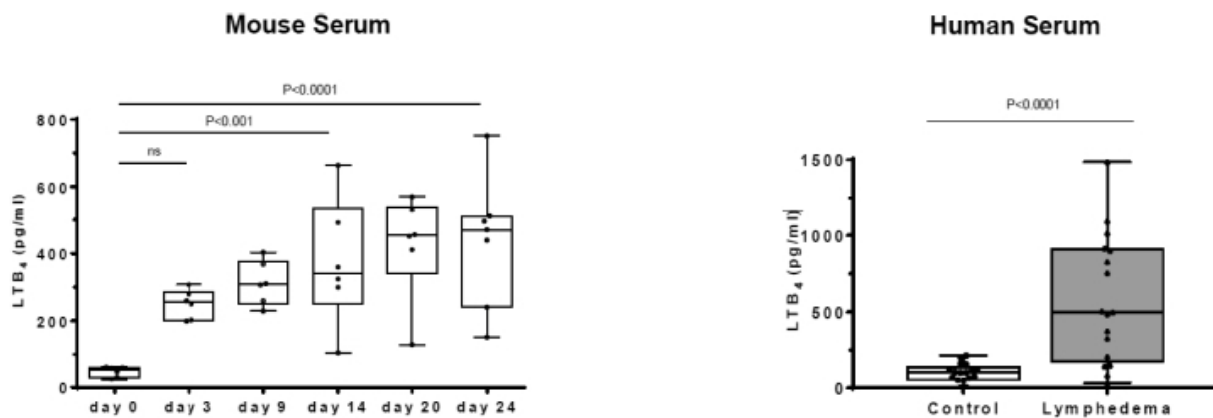
Lymphedema can be either primary, meaning it is congenital or occurs on its own, or secondary, meaning it is caused by another disease or condition. Primary lymphedema is caused by the absence of certain lymph vessels at birth or by abnormalities in the lymphatic vessels. It can be divided into three forms, depending on age of onset. The prevalence of primary lymphedema is less than 200,000 in the United States and less than 5 in 10,000

in the European Union, and expected to be eligible for orphan drug designation by regulatory authorities. Secondary lymphedema usually develops as a result of a blockage or interruption that alters the flow of lymph through the lymphatic system and can develop from an infection, malignancy, surgery, scar tissue formation, trauma, radiation, or other cancer treatment.

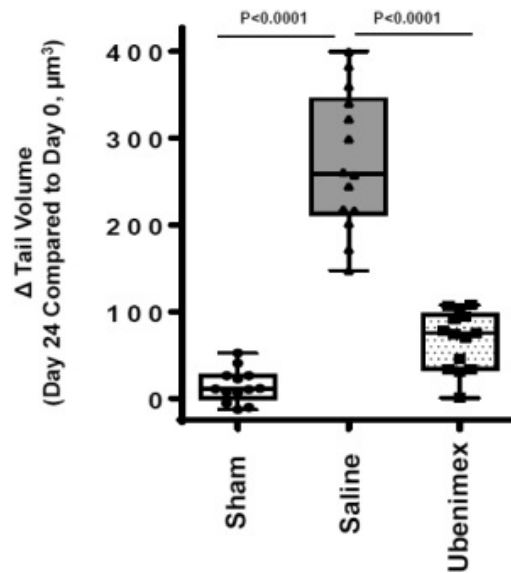
Primary lymphedema and secondary lymphedema can both be debilitating disorders with negative impact on quality of life and a large unmet medical need exists for an effective therapy. There is no approved pharmacologic treatment for lymphedema. Available treatments include compression garments, massage and exercise. Several agents such as coumarin have been tested in investigator-initiated clinical trials but have shown no clinical efficacy.

Preclinical LTB₄ Data in Lymphedema

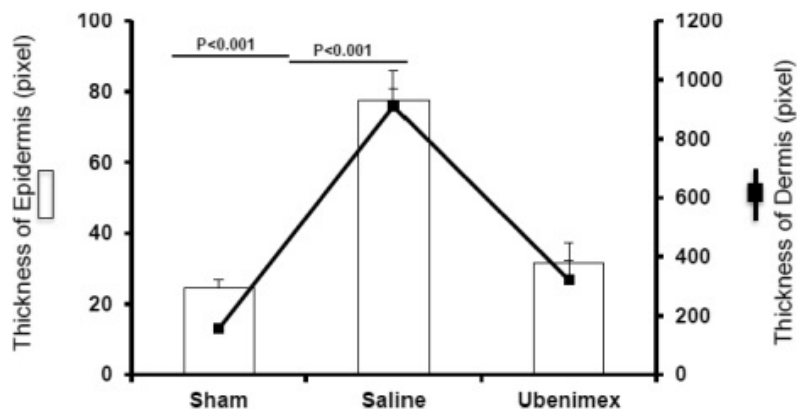
An animal model of lymphedema was used to mimic the physiological changes seen in lymphedema patients. In this model, acquired lymphedema was surgically induced in the tails of mice through the ablation of lymphatic trunks. As the tail volume increases, there is an accumulation of fibroblasts, fat cells and skin cells in the tail, and poor clearance of immune cells from the tail. As lymphedema is established in this model, the levels of LTB₄ in serum rise significantly. For surgical controls (sham animals), skin incision alone was performed without lymphatic cautery. Normal controls did not go under any surgical manipulation. When serum from human lymphedema patients was examined, the LTB₄ levels were also significantly ($p < 0.0001$) elevated compared to normal controls (control $n = 17$, lymphedema patients $n = 8$).



In animal models, ubenimex significantly reduced tail volume ($p < 0.0001$, sham $n = 13$, saline $n = 14$, ubenimex $n = 14$). Sham surgery (placebo surgery) is a faked surgical intervention that omits the step thought to be therapeutically necessary. In clinical trials of surgical interventions, sham surgery is an important scientific control. This is because it isolates the specific effects of the treatment as opposed to the incidental effects caused by anesthesia, the incisional trauma, pre- and postoperative care, and the patient's perception of having had a regular operation. Thus, sham surgery serves an analogous purpose to placebo drugs, neutralizing biases such as the placebo effect.



Ubenimex reversed lymphedema-induced tissue remodeling in animal models. Thickness of both the epidermis and dermis were reduced.



Eiger's Planned Solution: Ubenimex for Lymphedema

Clinical Plan

Eiger in-licensed ubenimex from Nippon Kayaku in 2015 and has relied on Nippon Kayaku's prior Phase 1 clinical data and experience with ubenimex to understand safety. Eiger received approval for a U.S. IND in January 2016 of ubenimex in lymphedema and plans to begin enrolling a Phase 2 clinical trial in the first half of 2016. Eiger filed an additional IND for ubenimex in lymphedema with FDA in December 2015, which was approved to proceed. Eiger's Phase 2 clinical proof of concept trial for ubenimex in lymphedema will be called ULTRA (Ubenimex Lymphedema Trial to Restore Activity). The trial is expected to enroll approximately 40 patients at Stanford with a goal to assess activity of ubenimex versus placebo. The primary endpoint is planned to be a measure of change in skin fold thickness from baseline. Secondary endpoints are expected to include change in limb volume from baseline and patient reported outcomes, including quality of life. Based on the proposed

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mechanism of action of ubenimex, as a potential anti-proliferative and a potential disease modifying agent, dosing in the planned trial is expected to be six months, which Eiger believes represents sufficient time to demonstrate activity. Eiger plans to initiate enrollment in its Phase 2 clinical proof of concept trial in the first half of 2016.

Manufacturing

Eiger currently contracts with third parties for the manufacturing of all of its product candidates for preclinical and clinical studies and intends to do so in the future. Eiger does not own or operate manufacturing facilities for the production of clinical trial quantities of its product candidates and has no plans to build its own clinical or commercial scale manufacturing capabilities. Eiger believes that the use of contracted manufacturing organization, or CMOs, eliminates the need for Eiger to directly invest in manufacturing facilities and equipment and additional staff. Although Eiger relies on contract manufacturers, Eiger's personnel and consultants have extensive manufacturing experience overseeing its CMOs.

To date, Eiger's third-party manufacturers have met the manufacturing requirements for the product candidates. Eiger expects third-party manufacturers to be capable of providing sufficient quantities of its product candidates to meet anticipated full scale commercial demands but has not assessed these capabilities beyond the supply of clinical material. Eiger plans to identify commercial contract manufacturers as it moves its product candidates to Phase 3 clinical trials. Eiger believes there are alternate sources of manufacturing that could be identified and enabled to satisfy its clinical and commercial requirements, however Eiger cannot be certain that identifying and establishing alternative relationships with such sources can be successful, cost effective, or completed on a timely basis without significant delay in the development or commercialization of its product candidates.

Lonafarnib

The drug product for lonafarnib Phase 2 clinical studies for the treatment of HDV was manufactured by Merck. Merck is currently in the process of transferring 50 kilograms, or kg, of drug substance and the manufacturing technology for lonafarnib drug substance and drug product to Eiger. Eiger believes that the 50 kg of drug substance are sufficient to provide drug product for Phase 3 pivotal studies. Eiger is in the process of selecting CMOs to manufacture lonafarnib drug substance and drug product for future clinical studies and commercial supply.

Exendin 9-39

The drug product for exendin (9-39) for the treatment of hypoglycemia associated with bariatric surgery for Phase 2 clinical studies are manufactured by a third party CMO.

Ubenimex

Nippon Kayaku manufactures the drug substance and drug product for ubenimex Phase 2 clinical studies for the treatment of PAH and lymphedema. Upon completion of Phase 2 clinical studies in PAH and lymphedema, Nippon Kayaku will transfer the manufacturing technology to Eiger and its CMOs, who will supply Phase 3 clinical trial materials and, if successful, commercial materials.

Intellectual Property

Eiger strives to protect those proprietary technologies it believes are important to its business. Eiger seeks and maintains, where available, patent protection for its product candidates including: composition of matter, method(s) of use, and process patents covering manufacture and/or formulation. Eiger has also licensed patents and patent applications that cover certain of its product candidates and/or their manufacture, use, or formulation.

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Eiger also relies, or plans to rely, on regulatory exclusivity, including orphan drug designation and New Chemical Entity (NCE) and Biologic License Application (BLA) exclusivities, as well as trade secrets and carefully monitors its proprietary information to protect all aspects of its business.

Eiger plans to continue to expand its intellectual property portfolio by filing patent applications on new dosage forms, methods of treatment, and compositions of matter for its product candidates. Eiger files and prosecutes patent applications in the United States and Europe, and when appropriate, additional countries, including Japan, Korea and China.

Eiger's success will depend significantly upon its ability to: (i) obtain and maintain patents and other exclusivity protections for commercially important technology, inventions and know-how related to its business; (ii) prosecute its patent applications to issue as patents and defend and enforce its patents; (iii) maintain its licenses to use intellectual property owned by others; (iv) preserve the confidentiality of its trade secrets, and (v) operate without infringing the valid and enforceable patents and other proprietary rights of others. In addition to maintaining its existing proprietary assets, Eiger seeks to strengthen its proprietary positions when economically reasonable to do so. Eiger's ability to augment its proprietary position relies on its: (i) know-how; (ii) ability to access technological innovations, and (iii) ability to in-license technology when appropriate.

The patent positions of pharmaceutical/biotechnology companies like Eiger are generally uncertain and involve complex legal, scientific, and factual issues. In addition, the scope claimed in a patent application can be significantly reduced during the patent prosecution process before any patent issues. After issuance of a patent, if the issued patent is challenged, then the courts can redefine the scope of the patent, including by invalidating some or all of the patent claims, or rendering the patent unenforceable in its entirety. Consequently, Eiger does not know with certainty whether patents will issue in each country where it or its licensors file patent applications, or if those patent applications, if ever issued, will issue with claims that cover Eiger's product candidates, or, even if they do issue, whether the patent or its relevant claims will remain enforceable upon challenge. Accordingly, Eiger cannot predict with certainty whether the patent applications it is currently pursuing will issue as patents in a particular jurisdiction or whether the claims of any issued patents will provide sufficient proprietary protection from potential competitors to make any of Eiger's products commercially successful. Any of Eiger's patents, including already issued in-licensed patents or any patents that may issue to Eiger or its licensors in the future, could be challenged, narrowed, circumvented, or invalidated by third parties. Newly filed patent applications in the United States Patent and Trademark Office, or the USPTO, and certain other patent offices are maintained in secrecy for a minimum of 18 months, and publications of discoveries in the scientific or patent literature often lag far behind the actual discoveries themselves. Further, the date of an invention is typically not publicly disclosed. For these reasons, Eiger cannot be certain that inventions claimed in pending patent applications were not invented by another party prior to Eiger's invention, or claimed in a patent application filed before the effective filing date of Eiger's applications, in either of which case the claims may not be patentable to Eiger. For certain applications with an effective filing date prior to March 13, 2013, Eiger may have to participate in interference proceedings declared by the USPTO to determine priority of invention. Also, while Eiger is not currently participating in any interferences or post-grant challenge proceedings, such as patent oppositions, post-grant reexamination proceedings, inter partes review proceedings and patent litigation, that seek to invalidate claims of pending patent applications or issued patents, Eiger may have to participate in such proceedings in the future. Such proceedings could result in substantial cost, even if the eventual outcome is favorable to Eiger.

The term of individual patents depends upon the legal term of the patents in the countries where they are issued. In most countries, the standard patent term for inventions relating to human drugs and their formulation and use is 20 years from the date of filing the first non-provisional patent or international application under the Patent Cooperation Treaty of 1970, or the PCT.

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Patent Protection of Eiger's Product Candidates

Eiger's product candidates and/or their uses in one or more indications of interest to Eiger are covered by in-licensed patents and patent applications and by Eiger's own patent applications.

Lonafarnib. Eiger has in-licensed from Merck a portfolio of patents that will expire before the anticipated launch date of the lonafarnib product candidate. Eiger has a PCT application that claims the use of lonafarnib in combination with ritonavir and/or optionally other drugs for the treatment of HDV infection. Eiger anticipates that this PCT will mature into patent applications in at least the United States, the European Patent Office (the "EPO"), and Japan. Any patents that issue from this PCT will expire in 2035, but a patent term extension (as described below) of up to 5 years is available in the United States, and Eiger expects lonafarnib to be eligible for this additional protection. In addition, Eiger expects lonafarnib to be eligible for NCE status, and lonafarnib has been granted orphan drug designation by the FDA and the EMA in this indication, which respectively provide five, seven and ten years of regulatory exclusivity. The PCT is an international patent law treaty that provides a single PCT application can be converted into a patent application in any of the more than 145 PCT contracting states, providing a cost-effective means for seeking patent protection in numerous regions or countries. Conversion of the PCT application into an application in any of the contracting states typically occurs about 30 months after a priority application is filed, or about 18 months after the PCT application filing date. An applicant must undertake prosecution within the allotted time in the patent offices of any, or a combination, of the contracting states or in a regional patent office it determines to undertake patent issuance in protection in such country or territory. Eiger has not yet determined the countries in which it will pursue potential patent protection from this PCT application, but even if Eiger determines to make such filings, its efforts may not result in the issuance of patents as a result. Even if no patents issue from this PCT, Eiger has filed other U.S. provisional applications, two of which were filed in April 2015, relating to combination dose forms of lonafarnib and ritonavir, and two relating to treating HDV with lonafarnib either alone and in combination with other agents filed in November 2015 and in February of this year.

Exendin (9-39). Eiger has in-licensed from Stanford two U.S. provisional applications that claim the use of exendin (9-39) and other agents in the treatment of hypoglycemia associated with bariatric surgery, including in post-bariatric surgery hypoglycemia. Eiger anticipates filing a PCT application in 2016 claiming priority to these two provisional applications. Any patents that issue from this PCT will expire in 2036, but patent term extension of up to 5 years is available in the United States, and Eiger expects exendin (9-39) to be eligible for this additional protection. In addition, Eiger expects exendin (9-39) to be eligible for orphan drug designation exclusivity and BLA exclusivity, which respectively provide seven years and twelve years of regulatory exclusivity in the United States.

Ubenimex.

PAH. Eiger has in-licensed from Stanford issued U.S. Patent No. 9,233,089 and a corresponding pending EPO application that claim the use of ubenimex and other agents in the treatment of PAH; a continuation application of the U.S. patent is also pending. Eiger has also in-licensed from Nippon Kayaku the exclusive right outside Asia to access its regulatory dossier for ubenimex, which Eiger believes to be a significant competitive advantage. U.S. Patent No. 9,233,089 (and from any patent that issues in the EPO or from any U.S. continuation) will expire in 2033, but may be extended as described below.

Lymphedema. Eiger has in-licensed from Stanford a pending PCT application that claims the use of ubenimex in the treatment of lymphedema. Eiger has also in-licensed from Nippon Kayaku the exclusive right outside Asia to access its regulatory dossier for ubenimex. Any patents that issue from this PCT will expire in 2036, but may be extended as described below.

Regulatory Exclusivity and Patent Term Extension. If ubenimex is approved in any indication, it would be entitled to NCE exclusivity, which would provide for five years of regulatory exclusivity for the approved

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product for the treatment of such indication. In addition, the FDA has granted orphan drug designation to ubenimex for the treatment of PAH, and Eiger is seeking orphan drug designation for ubenimex for the treatment of lymphedema. Orphan drug designation, if obtained, provides seven years of regulatory exclusivity for each indication. However, patent term extension, as described below, will potentially be available only for the first of the two indications, PAH and lymphedema, to be approved.

Patent Term

In the United States, the patent term for an FDA-approved drug may be eligible for a patent term extension, or a PTE. The Hatch-Waxman Act of 1984 permits restoration of a portion of the patent term of a U.S. patent as compensation for the patent term lost during product development and the FDA regulatory review process if approval of the application for the product is the first permitted commercial marketing of a drug or biological product containing the active ingredient. The length of the PTE is based on the length of time it takes for the drug to complete the pre-market regulatory approval requirements. The time required for approval of a NDA or BLA and 50% of the time spent in testing phase, reduced by any periods of lack of diligence, are credited up to a maximum five year extension. The PTE cannot extend the remaining term of a patent beyond a total of 14 years from the date of product approval. Only one patent per approved drug may be extended and a patent can only be extended once; thus, even if a single patent is applicable to multiple products, it can only be extended based on one product.

Similar provisions to extend the term of a patent that covers an approved drug may be available in certain other foreign jurisdictions. For example, in Europe, a supplementary protection certificate (SPC), if granted, may extend certain patent rights for up to 5 years. In addition, in Europe, marketing approval obtained through the European Medicines Agency (EMA) may provide a period of ten years of regulatory data exclusivity from the time of approval. When possible, depending upon the length of clinical trials and other factors involved in the filing of NDAs and BLAs for its products, Eiger expects to apply for patent term extension for patents covering its product candidates and their methods of use both in the United States and any foreign jurisdiction where available. There is no guarantee, however, that the applicable authorities will agree to grant extensions, and if granted, what the length of those extensions will be.

Other Proprietary Rights and Processes

Eiger also relies on trade secret protection for some of its confidential and proprietary information. It is Eiger's policy to require its employees, consultants, outside scientific collaborators, sponsored researchers and other advisors to execute confidentiality agreements upon the commencement of employment or consulting relationships with Eiger. These agreements provide that all confidential information concerning Eiger's business, scientific, development or financial affairs that are either developed or made known to the individual during the course of the individual's relationship with Eiger are to be kept confidential and not disclosed to third parties except in specific circumstances. Although Eiger takes steps to protect its proprietary information and trade secrets, including through contractual means with its employees and consultants, third parties may independently develop substantially equivalent proprietary information and techniques or otherwise gain access to Eiger's trade secrets and disclose its technology. If these events happen, Eiger may not be able to meaningfully protect its trade secrets.

Eiger's agreements with employees also provide that all inventions conceived by the employee in the course of employment with Eiger or based on the employee's use of Eiger's confidential information are Eiger's exclusive property or that Eiger has an exclusive royalty free license to use such technology.

Competition

The biopharmaceutical industry is highly competitive. Eiger faces competition from major pharmaceutical companies, specialty pharmaceutical companies and biotechnology companies worldwide. Given the significant

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unmet medical need for novel therapies to treat chronic hepatitis delta infection, post-bariatric surgery-induced hypoglycemia associated with bariatric surgery, PAH and lymphedema, these conditions are where various treatments from many companies are used and where many public and private universities and research organizations are actively engaged in the discovery, research and development of product candidates. As a result, there are and will likely continue to be extensive resources invested in the discovery and development of new products to treat these unmet medical needs. Eiger anticipates facing intense and increasing competition as new products enter the market and advanced technologies become available.

In addition, there are numerous multinational pharmaceutical companies and large biotechnology companies currently marketing or pursuing the development of products or product candidates targeting the same indications as Eiger's product candidates. Many of Eiger's competitors, either alone or with strategic partners, have or will have substantially greater financial, technical and human resources than Eiger. Accordingly, Eiger's competitors may be more successful than Eiger in developing or marketing products and technologies that are more effective, safer or less costly. Additionally, Eiger's competitors may obtain regulatory approval for their products more rapidly and may achieve more widespread market acceptance. Accelerated mergers and acquisitions activity in the biotechnology and pharmaceutical industries may result in even more resources being concentrated among a smaller number of Eiger's competitors. These companies also compete with Eiger in recruiting and retaining qualified scientific and management personnel, establishing clinical study sites and patient registration for clinical studies and acquiring technologies complementary to, or necessary for, Eiger's programs. Smaller or early-stage companies may also prove to be significant competitors, particularly through collaborative arrangements with large and established companies.

Eiger's potential competitors and the related stage of development of their product candidates in target indications is as follows:

- Hepatitis delta virus: Replicor, Inc. (Phase 2), Hepatera Ltd (Phase 2), Alnylam Pharmaceutical, Inc. (preclinical), Arbutus Biopharma (preclinical) and Arrowhead Research Corporation (preclinical);
- Hypoglycemia associated with bariatric surgery: Xoma Corporation (Phase 1);
- Pulmonary arterial hypertension: Gilead Sciences, Inc. (Phase 2), Reata Pharmaceuticals, Inc. (Phase 2), AADi LLC (Phase 1), United Therapeutics Corporation (Phase 1) and Arena Pharmaceuticals (Phase 2); and
- Lymphedema: Novartis (Phase 2).

There are other therapies that are used or may be used for Eiger's targeted indications, however Eiger does not believe that these therapies are potentially curative for Eiger's targeted indications. For example, there are a number of therapies used for symptomatic relief of PAH such as calcium channel blockers and diuretics as well as vasodilators. Other products in clinical development or marketed for other indications may be used in competition with Eiger's product candidates if Eiger is able to identify potential market opportunities of interest. For example, HDV has not been generally identified as a target for development compared to hepatitis B or hepatitis C, and products on the market or in development for those indications may potentially be tested in HDV as the understanding of the potential medical need for therapies in this indication become more widely understood.

Eiger believes that the key competitive factors that will affect the development and commercial success of its product candidates are efficacy, safety and tolerability profile, convenience in dosing, product labeling, cost-effectiveness, price, the level of generic competition and the availability of reimbursement from the government and other third-parties. Eiger's commercial opportunity could be reduced or eliminated for any of its products if its competitors have products that are approved earlier than Eiger's product candidates or are superior compared to Eiger's product candidates or if Eiger's product candidates do not result in an improvement in condition compared to those other products.

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License and Asset Purchase Agreements

License Agreement with Merck

In September 2010, Eiger entered a License Agreement with Merck, dated September 3, 2010, or the Merck License Agreement.

Under the Merck License Agreement, Merck granted Eiger an exclusive, worldwide license to develop, manufacture, and sell products containing the compounds Sarasar® (lonafamib) for the treatment of all human viruses except certain specified viruses such as hepatitis B and hepatitis C alone.

Eiger is responsible for the manufacture, development, and commercialization of the product at its cost and expense, and is obligated to use commercially reasonable efforts to develop and commercialize the product in the licensed field; provided however, that Merck agreed to provide sufficient product, free of charge, for Eiger to complete the proof of concept trial.

Under the Merck License Agreement, Eiger provided Merck a \$500,000 equity interest in EB Pharma, LLC, its wholly-owned subsidiary, which has an obligation to make development milestone payments in aggregate of up to \$27.0 million, and pay a tiered royalty, ranging from mid single to low double digits, based on increasing tiered levels of aggregate annual net sales of all licensed products.

The Merck License will continue for so long as Eiger owes royalty payments to Merck under the agreement. Each party has the right to terminate the Merck License Agreement for the other party's uncured material breach or bankruptcy. Merck also has the right to terminate the agreement if Eiger discontinues development and commercialization of lonafamib for a specified period of time. In addition, Eiger has the right to terminate the agreement, with notice, for any reason.

Asset Purchase Agreement with Eiger Group International, Inc.

In December 2010, Eiger entered into an Asset Purchase Agreement with Eiger Group International, Inc., or EGI, dated December 8, 2010, or the EGI APA. Dr. Jeffrey Glenn is the sole owner of EGI.

Under the EGI APA, Eiger purchased all intellectual property rights regarding the use of farnesyl transferase inhibitors as anti-viral agents and methods to treat viral infection with those inhibitors. Eiger also purchased all intellectual property rights regarding the use of inhibitors of prenylation, prenyl cysteine methyltransferase, and a specified protease as anti-viral agents and methods to treat viral infection with those inhibitors. Eiger is obligated to use commercially reasonable efforts to develop and commercialize the licensed products in major markets.

Under the EGI APA, Eiger paid EGI an upfront payment of \$350,000. Additionally, Eiger is obligated to pay EGI a low single-digit royalty based on aggregate annual net sales of products developed using the intellectual property. Eiger's obligation to pay EGI royalties on a product ends when that product is no longer sold in a country.

The term of the EGI APA extends until expiration of all payment obligations, and Eiger may terminate the agreement upon notice to EGI. EGI may terminate the EGI APA if Eiger fails to use commercially reasonable efforts to develop and commercialize licensed products. In addition, each party may terminate the EGI APA for the other party's uncured material breach or bankruptcy. In the event of any termination, other than termination by Eiger for EGI's breach, Eiger will assign the purchased assets back to EGI.

License Agreement with Janssen Pharmaceutica NV

In December 2014, Eiger, through its wholly-owned subsidiary EB Pharma, LLC, or EBP, entered a License Agreement, or the Janssen License Agreement, with Janssen Pharmaceutica NV, or Janssen, dated December 19, 2014.

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Under the Janssen License Agreement, Janssen granted Eiger an exclusive, worldwide, license to develop, manufacture, and sell products containing the compound tipifamib for all therapeutic and diagnostic uses in humans, including any such uses for human virology diseases, but excluding oncology diseases.

Eiger is responsible for the development of at least one product in a major market country and for commercialization of products in all countries where necessary authorization is obtained, both at Eiger's cost and expense. Eiger may manufacture, develop, and commercialize the products itself or it may grant one or more sublicenses for such purposes. However, for a period of time following completion of the proof of concept trial, Janssen has a first right of negotiation for an exclusive license back from Eiger to develop and commercialize tipifamib in any country in the world.

Under the Janssen License Agreement, Eiger is obligated to make development milestone payments in aggregate of up to \$38.0 million, sales milestone payments in aggregate of up to \$65.8 million, and pay a tiered royalty, ranging from the mid single to low double digits, based on aggregate annual net sales of all licensed products. If Eiger grants a sublicense, Eiger is obligated to pay Janssen a portion of the sublicensing income received.

The Janssen License Agreement will continue for so long as Eiger owes royalty payments to Janssen under the agreement or for so long as there is a valid patent claim under the agreement, whichever is longer. Both parties have the right to terminate the agreement for the other party's uncured material breach of the agreement or for the other party's bankruptcy. Janssen also has the right to terminate the agreement if Eiger fails to meet certain specified diligence obligations. In addition, Eiger has the right to terminate the agreement without cause at any time.

License Agreement with Nippon Kayaku Co., Ltd.

In May 2015, Eiccose, LLC, or Eiccose, and Nippon Kayaku Co., Ltd, or NK, entered into a License Agreement, or NK License, dated May 1, 2015 pursuant to which NK granted Eiccose an exclusive license to develop, manufacture, and sell ubenimex outside certain identified Asia countries, including Japan, for the treatment of PAH and other inflammatory disease involving leukotriene B4. Eiccose assigned the NK License to Eiger as part of the Eiccose asset purchase described below.

Under the NK License, Eiger is responsible for the development and commercialization of ubenimex in its territory at its cost and expense. Eiger will purchase ubenimex for development and commercial use from NK at agreed transfer prices under a separate supply agreement, but Eiger has the option to manufacture and supply the product for Phase 3 studies and/or commercial use. If Eiger exercises the manufacturing option, NK will transfer the manufacture of the product to Eiger or Eiger's contract manufacturer, at Eiger's cost and expense, and Eiger will pay NK a running, mid, single-digit royalty on the net sales of ubenimex sold in Eiger's territory or, if the parties agree, a lump-sum payment, for the use of NK's manufacturing know-how.

Under the NK License, Eiger also granted back to NK an exclusive license to develop, manufacture, and sell ubenimex for the treatment of PAH and other inflammatory disease involving leukotriene B4 in the Asia countries comprising the NK territory. NK is responsible for the development and commercialization of ubenimex in the licensed indications in its territory at its own cost and expense. NK will pay Eiger a running, mid, single-digit royalty on net sales of ubenimex in the specified indications in NK's territory.

The NK License Agreement will continue for so long as the parties and their sublicensees continue to develop and commercialize ubenimex for the treatment of PAH and other inflammatory disease involving leukotriene B4. Both parties have the right to terminate the agreement for the other party's uncured material breach, and NK also has the right to terminate the agreement if Eiger fails to meet certain specified diligence obligations. In addition, the parties may terminate the agreement if further development of the product is commercially, financially, or otherwise not advisable.

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Asset Purchase Agreement with Tracey McLaughlin and Colleen Craig

In September 2015, Eiger entered into an Asset Purchase Agreement with two individuals, Drs. Tracey McLaughlin and Colleen Craig, or the Sellers, dated September 25, 2015, or the Exendin APA.

Under the Exendin APA, Eiger purchased all intellectual property rights from the Sellers, including an assignment of a license agreement with Stanford which covered exclusive rights with respect to the compound exendin. Under the assigned Stanford exclusive license agreement, Eiger is obligated to pay Stanford a low, single-digit royalty on net sales.

Under the Exendin APA, Eiger is obligated to pay to each of the Sellers milestone payments in aggregate up to \$1.0 million and a low, single-digit royalty based on aggregate annual net sales of all products developed based on exendin. Eiger also agreed to retain each of the Sellers pursuant to a consulting agreement with a term of one year, subject to annual renewal.

Asset Purchase Agreement with Eiccosse, LLC

In October 2015, Eiger entered into an Asset Purchase Agreement, or the Eiccosse APA, with Eiccosse. David Cory, the President, Chief Executive Officer and a director of Eiger, is a managing member and significant equity interest holder of Eiccosse.

Under the Eiccosse APA, Eiger purchased all intellectual property rights with respect to ubenimex from Eiccosse. Specifically, under the Eiccosse APA, Eiccosse assigned to Eiger the exclusive license agreement regarding ubenimex between Eiccosse and Nippon Kayaku Co., Ltd., or the NK License. Eiger also purchased intellectual property rights related to Stanford Docket S11-438—Pulmonary Arterial Hypertension and Stanford Docket S14-323—Lymphedema, and Eiccosse assigned to Eiger the exclusive license agreements between Eiccosse and the Board of Trustees of Stanford regarding these two Stanford Dockets, or the Stanford Licenses.

Under the Eiccosse APA, Eiger also paid to Eiccosse a total of \$119,673, representing reimbursement of certain specified expenses, including payments and accrued amounts owed under the Stanford Licenses for previously incurred patent expenses and costs related to the negotiation and assignment of the Stanford Licenses. Under the terms of the Eiccosse APA, at the closing of the next round of financing pursuant to which Eiger sells shares of its preferred stock (or if there is no preferred stock, then common stock) resulting in gross proceeds to Eiger of at least \$25.0 million, Eiger committed to issue to Eiccosse the number of fully vested shares of Eiger's common stock equal to 1.75% of the total number of Eiger's outstanding capital stock following the first closing of such financing, which is expected to be issued upon the closing of the merger. Under the terms of the Eiccosse APA, Eiger is further required to pay Eiccosse milestone payments totaling up to \$10.0 million after achievement of specified milestones. Eiger is also required to pay Eiccosse royalties at a rate in the low single digits based on the net sales of the first pharmaceutical product sold to an independent third party that contains or uses ubenimex.

Exclusive Agreement with the Board of Trustees of the Leland Stanford Junior University—Lymphedema

In October 2015, as part of the assets Eiger purchased from Eiccosse, Eiger acquired and was assigned an Exclusive Agreement, or the Stanford Lymphedema Agreement, between Eiccosse and the Board of Trustees of Stanford dated October 27, 2015.

Under the Stanford Lymphedema Agreement, Stanford granted Eiger an exclusive, worldwide license under specified patent rights related to the treatment of lymphedema, to manufacture, use, and sell products covered by the licensed patents for all uses.

Eiger is responsible for the development and commercialization of any products under the license at its cost and expense, and is obligated to use commercially reasonable efforts to achieve certain specified milestones. In

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consideration of the license, Eiger paid to Stanford a low, single-digit equity interest and is obligated to make milestone payments in aggregate of up to \$1.5 million as well as a low, single-digit royalty on net sales of any products.

Stanford may terminate the agreement for Eiger's uncured material breach or bankruptcy. Stanford also has the right to terminate the agreement if Eiger fails to develop and commercialize products in accordance with certain specified diligence obligations. Eiger has the right to terminate the agreement without cause at any time.

Exclusive Agreement with the Board of Trustees of the Leland Stanford Junior University—PAH

In October 2015, as part of the assets Eiger purchased from Eicco, Eiger also acquired an Exclusive Agreement between Eicco and Stanford, dated May 1, 2015, or the Stanford PAH Agreement.

Under the Stanford PAH Agreement, Stanford granted Eiger an exclusive, worldwide license under specified patent rights related to the treatment of PAH and improved right ventricle function, to manufacture, use, and sell products covered by the licensed patents for all uses. Stanford and other non-profit research institutions retain the right to practice under the licensed patents for any non-profit purpose.

Eiger is responsible for the development and commercialization of the products at its cost and expense, and is obligated to use commercially reasonable efforts to achieve certain specified milestones. Eiger may satisfy these requirements itself, through its affiliates, or through granting one or more sublicenses. Eiger is obligated to give Stanford a low, single-digit equity interest, make milestone payments in aggregate of up to \$1.5 million, and pay a low, single-digit royalty on net sales of the products. If Eiger grants a sublicense, it will pay Stanford a portion of the sublicensing income received.

Stanford may terminate the agreement for Eiger's uncured material breach or bankruptcy. Stanford also has the right to terminate the agreement if Eiger fails to develop and commercialize products in accordance with certain specified diligence obligations. Eiger has the right to terminate the agreement, with notice, for any reason.

Government Regulations and Product Approvals

Government authorities in the United States, at the federal, state and local level, and in other countries extensively regulate, among other things, the research, development, testing, manufacture, packaging, storage, recordkeeping, labeling, advertising, promotion, distribution, marketing, import and export of pharmaceutical products such as those Eiger is developing. The processes for obtaining regulatory approvals in the United States and in foreign countries, along with subsequent compliance with applicable statutes and regulations, require the expenditure of substantial time and financial resources.

FDA Approval Process

All of Eiger's current product candidates are subject to regulation in the United States by the FDA under the Federal Food, Drug, and Cosmetic Act, or FDC Act, and its implementing regulations. The FDA subjects drugs to extensive pre and post market regulation. Failure to comply with the FDC Act and other federal and state statutes and regulations may subject a company to a variety of administrative or judicial sanctions, such as FDA refusal to approve pending NDAs, withdrawal of approvals, clinical holds, warning letters, product recalls, product seizures, total or partial suspension of production or distribution, injunctions, fines, civil penalties or criminal penalties.

FDA approval is required before any new unapproved drug or dosage form, including a new use of a previously approved drug, can be marketed in the United States. The process required by the FDA before a new drug may be marketed in the United States is long, expensive, and inherently uncertain. Drug development in the United States typically involves completion of preclinical laboratory and animal tests, submission to the FDA of

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an Investigational New Drug application, or IND, which must become effective before clinical testing may commence, approval by an independent institutional review board, or IRB, at each clinical site before each trial may be initiated, performance of adequate and well controlled clinical trials to establish the safety and effectiveness of the drug for each indication for which FDA approval is sought, submission to the FDA of an NDA, satisfactory completion of an FDA inspection of the manufacturing facility or facilities at which the product is produced, and FDA review and approval of the NDA. Developing the data to satisfy FDA pre-market approval requirements typically takes many years and the actual time required may vary substantially based upon the type, complexity, and novelty of the product, disease or indication.

Preclinical tests include laboratory evaluation of the product's chemistry, formulation, and toxicity, as well as animal studies to characterize and assess the potential safety and efficacy of the product. The conduct of the preclinical tests must comply with federal regulations and requirements, including good laboratory practice, or GLP, regulations. These preclinical results are submitted to the FDA as part of an IND along with other information, including information about the product's chemistry, manufacturing and controls, and a proposed clinical trial protocol. Long term preclinical studies including reproductive toxicity and carcinogenicity may be initiated or continue after the IND is submitted.

An IND must become effective before United States clinical trials may begin. A 30-day waiting period after the submission of each IND is required prior to the commencement of clinical testing in humans. If the FDA has neither commented on nor questioned the IND within this 30-day period, the IND automatically becomes effective and the clinical trial proposed in the IND may begin. If the FDA does raise any concerns or questions and places the clinical trial on a clinical hold, the IND sponsor and the FDA must resolve any outstanding concerns before the clinical trial can begin. As a result, a submission of an IND may not result in FDA authorization to commence a clinical trial. A separate submission to an existing IND must also be made for each successive clinical trial conducted during product development.

Clinical trials involve the administration of the investigational new drug to human subjects under the supervision of a qualified investigator. Clinical trials must be conducted: (i) in compliance with federal regulations, including good clinical practice, or GCP, requirements for conducting, monitoring, recording and reporting the results of clinical trials, in order to ensure that the data and results are scientifically credible and accurate and that the trial subjects are adequately informed of the potential risks of participating in clinical trials; and (ii) with protocols that detail, among other things, the objectives of the trial, the parameters to be used in monitoring safety, and the effectiveness criteria to be evaluated. Each protocol involving testing on U.S. patients and subsequent protocol amendments must be submitted to the FDA as part of the IND.

The FDA may order the temporary, or permanent, discontinuation of a clinical trial at any time, or impose other sanctions, if it believes that the clinical trial either is not being conducted in accordance with FDA requirements or presents an unacceptable risk to the clinical trial patients. The study protocol and informed consent information for patients in clinical trials must also be submitted to and approved by an IRB at each study site before the study commences at that site and the IRB must monitor the clinical trial until it is completed. An IRB may also require the clinical trial at that site to be halted, either temporarily or permanently, for failure to comply with the IRB's requirements or if the drug candidate has been associated with unexpected serious harm to patients, or the IRB may impose other conditions. The study sponsor or the FDA may also suspend or discontinue a clinical trial at any time on various grounds, including a determination that the subjects are being exposed to an unacceptable health risk.

Clinical trials to support an NDA for marketing approval are typically conducted in three sequential phases, although there is leeway to overlap or combine these phases.

- **Phase 1.** The drug candidate is initially introduced into healthy human subjects or patients with the target disease or condition, and is tested to assess safety, dosage tolerance, pharmacokinetics and pharmacological activity, and, when possible, to ascertain evidence of efficacy. The drug candidate

may also be tested in patients with severe or life-threatening diseases to gain an early indication of its effectiveness.

- **Phase 2.** The trials are conducted using a limited patient population for the purposes of preliminarily determining the effectiveness of the drug in that particular indication, ascertaining dosage tolerance, discerning the optimal dosage, and identifying possible adverse effects and safety risks.
- **Phase 3.** If a compound demonstrates evidence of efficacy and has an acceptable safety profile in the Phase 2 clinical trials, then Phase 3 clinical trials are undertaken to obtain additional information from an expanded and diverse patient population, at multiple, geographically dispersed clinical trial sites, in randomized controlled studies often with a double-blind design to maximize the reproducibility of the study results. Typically, a minimum of two positive Phase 3 clinical trials are submitted to support the product's marketing application. These Phase 3 clinical trials are intended to provide sufficient data demonstrating evidence of the efficacy and safety of the drug such that the FDA can evaluate the overall benefit-risk of the drug and provide adequate information for the labeling and package insert for the drug. Trials conducted outside of the United States under similar, GCP-compliant conditions in accordance with local applicable laws may also be acceptable to FDA in support of product approval.

Sponsors of clinical trials for investigational drugs must publicly disclose certain clinical trial information, including detailed trial design. These requirements are subject to specific timelines and apply to most Phase 3 clinical trials of FDA-regulated products.

In some cases, FDA may condition approval of an NDA for a product candidate on the sponsor's agreement to conduct additional clinical trials after NDA approval. In other cases, a sponsor may voluntarily conduct additional clinical trials post approval to gain more information about the drug. Such post approval trials are typically referred to as Phase 4 clinical trials.

Progress reports detailing the results of the clinical trials must be submitted at least annually to the FDA and more frequently if serious adverse events occur. Additionally, some clinical trials are overseen by an independent group of qualified experts organized by the clinical trial sponsor, known as a data safety monitoring board or committee. This group provides authorization for whether or not a trial may move forward at designated check points based on access to certain data from the study. Phase 1, Phase 2, Phase 3 and Phase 4 clinical trials may not be completed successfully within any specified period, or at all.

Concurrent with clinical trials, companies usually finalize a process for manufacturing the drug in commercial quantities in accordance with current good manufacturing practice, or cGMP, requirements. The manufacturing process must be capable of consistently producing quality batches of the drug candidate and, among other things, the manufacturer must develop methods for testing the identity, strength, quality and purity of the final drug product. Additionally, appropriate packaging must be selected and tested and stability studies must be conducted to demonstrate that the drug candidate does not undergo unacceptable deterioration over its shelf life.

After completion of the required clinical testing, an NDA is prepared and submitted to the FDA requesting approval to market the drug for one or more specified indications. FDA review and approval of the NDA is required before marketing of the product may begin in the United States. The NDA must include the results of all preclinical, clinical, and other testing, including negative or ambiguous results as well as positive findings, together with other detailed information including compilation of data relating to the product's pharmacology, chemistry, manufacture, and controls. The NDA must also contain extensive manufacturing information. The FDA reviews an NDA to determine, among other things, whether a drug is safe and effective for its intended use. The cost of preparing and submitting an NDA is substantial. Under federal law, the submission of most NDAs is subject to both a substantial application user fee and annual product and establishment user fees. The sum of these fees may total several million dollars and they are typically increased annually.

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The FDA has 60 days from its receipt of an NDA to determine whether the application will be accepted for filing based on the agency's threshold determination that the application is sufficiently complete to permit substantive review. The FDA may request additional information rather than accept an NDA for filing. In this event, the application must be resubmitted with the additional information. Once the submission is accepted for filing, the FDA begins an in-depth review.

Under the Prescription Drug User Fee Act, or PDUFA, guidelines that are currently in effect, the FDA has agreed to certain performance goals in the review of NDAs. Standard NDAs are generally reviewed within ten months of filing, or twelve months from submission. Although FDA often meets its user fee performance goals, the FDA can extend these timelines if necessary, and FDA review may not occur on a timely basis. The FDA usually refers applications for novel drugs, or drugs that present difficult questions of safety or efficacy, to an advisory committee—a panel of independent experts, typically including clinicians and other scientific experts—for review, evaluation, and a recommendation as to whether the application should be approved and under what conditions. The FDA is not bound by the recommendation of the advisory committee, but it generally follows its recommendations. Before approving an NDA, the FDA will typically inspect one, or more, clinical sites to assure compliance with GCP. Additionally, the FDA will inspect the facility or the facilities at which the drug is manufactured. The FDA will not approve an application unless it verifies that compliance with cGMP requirements is satisfactory and that the manufacturing processes and facilities are adequate to assure consistent production of the product within required specifications. The FDA will not approve a drug unless the application contains data showing substantial evidence that it is safe and effective in the indication studied.

After the FDA evaluates the NDA and conducts its inspections, it issues either an approval letter or a complete response letter. A complete response letter generally outlines the deficiencies contained in the submission and may require substantial additional testing or information in order for the FDA to reconsider the application, including potentially significant, expensive and time-consuming requirements related to clinical trials, nonclinical studies or manufacturing. Even if such data are submitted, the FDA may ultimately decide that the NDA does not satisfy the criteria for approval. Data from clinical trials are not always conclusive, and the FDA may interpret data differently than Eiger does. If and when those deficiencies have been addressed to the FDA's satisfaction in a resubmission of the application, the FDA will typically issue an approval letter. The FDA has committed to reviewing such resubmissions in two or six months depending on the type of additional information requested. FDA approval is never guaranteed. The FDA may refuse to approve an NDA if applicable regulatory criteria are not satisfied.

An approval letter authorizes commercial marketing of the drug with specific prescribing information for specific indications. The approval for a drug may be significantly more limited than requested in the application, including limitations on the specific diseases and dosages or the indications for use, which could restrict the commercial value of the product. The FDA may also require that certain contraindications, warnings, or precautions be included in the product's package insert, or labeling.

In addition, as a condition of approval, the FDA may require a risk evaluation and mitigation strategy, or REMS, to help ensure that the benefits of the drug outweigh the potential risks. REMS can include medication guidelines, communication plans for healthcare professionals, and elements to assure safe use, or ETASU. ETASU can include, but are not limited to, special training or certification for prescribing or dispensing—including dispensing only under certain circumstances, special monitoring, and the use of patient registries. The requirement for a REMS or use of a companion diagnostic with a drug can materially affect the potential market and profitability of the drug. Moreover, product approval may require, as a condition of approval, substantial post-approval testing and surveillance to monitor the drug's safety or efficacy. The FDA may also condition approval on, among other things, changes to proposed labeling or development of adequate controls and specifications.

Once granted, product approvals may be withdrawn if compliance with regulatory standards are not maintained or problems are identified following initial marketing. In addition, after approval, some types of

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changes to the approved product, such as adding new indications, manufacturing changes, and additional labeling claims, are subject to further testing requirements and FDA review and approval. There also are continuing, annual user fee requirements for any marketed products and the establishments at which such products are manufactured, as well as new application fees for supplemental applications with clinical data.

Orphan Drugs

Under the Orphan Drug Act, the FDA may grant an orphan drug designation to products intended to treat a rare disease or condition—generally one that affects fewer than 200,000 individuals in the United States. Orphan drug designation must be requested before submitting the NDA. After the FDA grants orphan drug designation, the FDA publicly discloses the drug's identity and its intended orphan use. Orphan drug designation does not convey any advantage in, or shorten the duration of, the regulatory review and approval process. The first NCE to be approved to treat a disease with FDA's orphan drug designation is entitled to a seven-year period of marketing exclusivity in the United States for that product, for that indication. During the seven-year exclusivity period, the FDA may not approve any other applications to market the same drug for the same orphan indication, regardless of patent status, except in limited circumstances, such as a showing of clinical superiority to the product with orphan exclusivity or if the FDA finds that the holder of the orphan exclusivity has not shown that it can assure the availability of sufficient quantities of the orphan drug to meet the needs of patients with the disease or condition for which the drug was designated. Orphan drug exclusivity does not prevent the FDA from approving a different chemical/biological entity for the same disease or condition. An orphan drug designation also does not preclude the same drug from being developed for a different disease or condition. Among the other benefits of orphan drug designation are tax credits for certain research expenses and a waiver of the NDA application user fee.

Advertising and Promotion

Drugs manufactured or distributed pursuant to FDA approvals are subject to pervasive and continuing post-approval regulatory requirements. For instance, the FDA closely regulates the post-approval marketing, labeling, advertising and promotion of drugs, including standards and regulations for direct-to-consumer advertising, off-label promotion, industry-sponsored scientific and educational activities and promotional activities involving the Internet. Failure to comply with these requirements can result in adverse publicity as well as significant penalties, including the issuance of warning letters directing a company to correct any deviations from the FDA's standards. The FDA may also impose a requirement that future advertising and promotional materials be pre-cleared by the FDA, and the company may face federal and/or state civil and criminal investigations and prosecutions.

Drugs may be marketed only for the approved indications and in accordance with the provisions of the approved labeling. Changes to some of the conditions established in an approved application, including changes in indications, labeling, or manufacturing processes or facilities, require submission and FDA approval of a new NDA or NDA supplement before the change can be implemented. An NDA supplement for a new indication typically requires clinical data similar to that in the original application, and the FDA uses the same procedures and actions in reviewing NDA supplements as it does in reviewing NDAs. Obtaining new indication is an important part of managing the life cycle of the drug.

Adverse Event Reporting and cGMP Compliance

Recordkeeping, adverse event reporting and the submission of periodic reports are required following the FDA's approval of an NDA. The FDA also may require post-marketing testing or Phase 4 clinical trials, REMS, or surveillance to monitor the effects of an approved drug. In addition, the FDA may place conditions on an approval that could restrict the distribution or use of the product. Furthermore, manufacture, packaging, labeling, storage and distribution procedures must continue to conform to cGMPs after approval. Manufacturers and certain of their subcontractors are required to register their establishments with the FDA and certain state

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agencies, and are subject to periodic unannounced inspections by the FDA and certain state agencies to assess compliance with ongoing regulatory requirements, including cGMPs. Changes to the manufacturing process are strictly regulated and often require prior FDA approval before being implemented. FDA regulations also require investigation and correction of any deviations from cGMP requirements and impose reporting and documentation requirements upon the sponsor and any third-party manufacturers that the sponsor may decide to use. Accordingly, manufacturers must continue to expend time, money, and effort in the areas of production and quality control to maintain compliance with cGMPs. Failure to comply with the statutory and regulatory requirements can subject a manufacturer to possible legal or regulatory action, such as warning letters, suspension of manufacturing, seizure of product, injunctive action or possible civil penalties. Eiger cannot be certain that it or its present or future third-party manufacturers or suppliers will be able to comply with the cGMP regulations and other ongoing FDA regulatory requirements. If Eiger or its present or future third-party manufacturers or suppliers are not able to comply with these requirements, the FDA may halt Eiger's clinical trials, require Eiger to recall a drug from distribution or withdraw approval of the NDA for that drug. Regulatory authorities may also withdraw product approvals, request product recalls, or impose marketing restrictions through labeling changes or product removals upon discovery of previously unknown problems with a product, including adverse events of unanticipated severity or frequency, or with manufacturing processes.

Companion Diagnostics

In vitro diagnostics, or IVDs, are a type of medical device that are intended to detect diseases, conditions, infections, biomarkers, or the presence of specific genetic alleles. If the safe and effective use of a drug requires an IVD, the FDA generally will demand clearance or approval of the companion diagnostic at the same time they approve the therapeutic. The FDA has required *in vitro* companion diagnostics to obtain premarket clearance or approval simultaneously with drug approval if the diagnostic is intended to identify those patients most likely to respond to drug treatment. Accordingly, a required companion diagnostic has the potential to delay approval of the drug.

In the United States, the FDC Act and its implementing regulations, and other federal and state statutes and regulations govern, among other things, the design and development, preclinical and clinical testing, premarket clearance or approval, registration and listing, manufacturing, labeling, storage, advertising and promotion, sales and distribution, export and import, and post-market surveillance of medical devices, including IVDs. Unless an exemption applies, diagnostic tests require marketing clearance or approval from the FDA prior to commercial distribution. The two primary types of FDA marketing authorization applicable to a medical device are premarket notification, also called 510(k) clearance, and approval of a premarket approval application, or PMA. The FDA classifies all medical devices into one of three classes. Devices deemed to pose lower risk are categorized as either Class I or II, which requires the manufacturer to submit to the FDA a 510(k) pre-market notification requesting clearance of the device for commercial distribution in the United States, unless an exemption applies. Devices deemed by the FDA to pose the greatest risk, such as life sustaining, life-supporting or implantable devices, or devices deemed not substantially equivalent to a previously 510(k)-cleared device are categorized as Class III, requiring a PMA.

To obtain 510(k) clearance for a medical device, a pre-market notification must be submitted to the FDA demonstrating that the proposed device is substantially equivalent to a previously 510(k)-cleared device or a device that was in commercial distribution before May 28, 1976 for which FDA has not yet called for the submission of a PMA, or the device must be one that has been reclassified from Class III to either Class II or I. The 510(k) clearance process usually takes from three to twelve months from the date the application is submitted and filed with the FDA, but may take significantly longer and clearance is never assured. Although many 510(k) pre-market notifications are cleared without clinical data, in some cases, the FDA requires significant clinical data to support substantial equivalence. In reviewing a pre-market notification, the FDA may request additional information, including clinical data, which may significantly prolong the review process. After a device receives 510(k) clearance, any subsequent modification of the device that could significantly affect its safety or effectiveness, or that would constitute a major change in its intended use, will require a new 510(k)

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clearance or could require pre-market approval. The FDA requires each manufacturer to make this determination initially, but the FDA may review any such decision and may disagree with a manufacturer's determination. If the FDA disagrees with a manufacturer's determination, the FDA may require the manufacturer to cease marketing and/or recall the modified device until 510(k) clearance or a PMA is obtained.

PMA's must be supported by valid scientific evidence, which typically requires extensive data, including technical, preclinical, clinical and manufacturing data, to demonstrate to the FDA's satisfaction the safety and effectiveness of the device. For diagnostic tests, a PMA typically includes data regarding analytical and clinical validation studies. As part of its review of the PMA, the FDA will conduct a pre-approval inspection of the manufacturing facility or facilities to ensure compliance with the Quality System Regulation, or QSR, which requires manufacturers to follow design, testing, control, documentation and other quality assurance procedures. FDA review of an initial PMA is required by statute to take between six to ten months, although the process typically takes longer, and may require several years to complete. If the FDA evaluations of both the PMA and the manufacturing facilities are favorable, the FDA will either issue an approval letter or an approvable letter, which usually contains a number of conditions that must be met in order to secure the final approval of the PMA. If the FDA's evaluation of the PMA or manufacturing facilities is not favorable, the FDA will deny approval of the PMA or issue a not approvable letter. A not approvable letter will outline the deficiencies in the application and, where practical, will identify what is necessary to make the PMA approvable. The FDA may also determine that additional clinical trials are necessary, in which case the PMA approval may be delayed for several months or years while the trials are conducted and then the data submitted in an amendment to the PMA. Once granted, PMA approval may be withdrawn by the FDA if compliance with post approval requirements, conditions of approval or other regulatory standards is not maintained or problems are identified following initial marketing.

Other Healthcare Laws and Compliance Requirements

In the United States, Eiger's activities are potentially subject to regulation by federal, state, and local authorities in addition to the FDA. These other agencies include, without limitation, the Centers for Medicare and Medicaid Services, other divisions of the U.S. Department of Health and Human Services, the U.S. Department of Justice and individual U.S. Attorney offices within the Department of Justice, as well as state and local governments. Such agencies enforce a variety of laws, including without limitation, anti-kickback and false claims laws, data privacy and security laws, and physician payment transparency laws.

The federal Anti-Kickback Statute prohibits, among other things, knowingly and willfully offering, paying, soliciting or receiving any remuneration (including any kickback, bribe or rebate), directly or indirectly, overtly or covertly, to induce or in return for purchasing, leasing, ordering or arranging for or recommending the purchase, lease or order of any good, facility, item or service reimbursable, in whole or in part, under Medicare, Medicaid or other federal healthcare programs. The term "remuneration" has been broadly interpreted to include anything of value. The Anti-Kickback Statute has been interpreted to apply to arrangements between pharmaceutical manufacturers on one hand and prescribers, purchasers and formulary managers on the other. Although there are a number of statutory exceptions and regulatory safe harbors protecting some common activities from prosecution, the exceptions and safe harbors are drawn narrowly. Practices that involve remuneration that may be alleged to be intended to induce prescribing, purchases or recommendations may be subject to scrutiny if they do not qualify for an exception or safe harbor. Failure to meet all of the requirements of a particular applicable statutory exception or regulatory safe harbor does not make the conduct per se illegal under the Anti-Kickback Statute. Instead, the legality of the arrangement will be evaluated on a case-by-case basis based on a cumulative review of all of its facts and circumstances. Several courts have interpreted the statute's intent requirement to mean that if any one purpose of an arrangement involving remuneration is to induce referrals of federal healthcare covered business, the Anti-Kickback Statute has been violated.

Additionally, the intent standard under the Anti-Kickback Statute was amended by the Patient Protection and Affordable Care Act of 2010, as amended by the Health Care and Education Reconciliation Act of 2010, or the ACA, to a stricter standard such that a person or entity no longer needs to have actual knowledge of the

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statute or specific intent to violate it in order to have committed a violation. In addition, ACA codified case law that a claim including items or services resulting from a violation of the federal Anti-Kickback Statute constitutes a false or fraudulent claim for purposes of the federal civil False Claims Act.

The federal civil False Claims Act prohibits, among other things, any person or entity from knowingly presenting, or causing to be presented, a false or fraudulent claim for payment to or approval by the federal government or knowingly making, using or causing to be made or used a false record or statement material to a false or fraudulent claim to the federal government. A claim includes “any request or demand” for money or property presented to the U.S. government. Several pharmaceutical and other healthcare companies have been prosecuted under these laws for, among other things, allegedly providing free product to customers with the expectation that the customers would bill federal programs for the product. Other companies have been prosecuted for causing false claims to be submitted because of the companies’ marketing of products for unapproved, and thus non-reimbursable, uses. In addition, the civil monetary penalties statute imposes penalties against any person or entity that, among other things, is determined to have presented or caused to be presented a claim to a federal health program that the person knows or should know is for an item or service that was not provided as claimed or is false or fraudulent.

The federal Health Insurance Portability and Accountability Act of 1996, or HIPAA, created new federal criminal statutes that prohibit knowingly and willfully executing, or attempting to execute, a scheme to defraud any healthcare benefit program, including private third-party payors and knowingly and willfully falsifying, concealing or covering up a material fact or making any materially false, fictitious or fraudulent statement in connection with the delivery of or payment for healthcare benefits, items or services. Like the Anti-Kickback Statute, ACA broadened the reach of certain criminal healthcare fraud statutes created under HIPAA by amending the intent requirement such that a person or entity no longer needs to have actual knowledge of the statute or specific intent to violate it in order to have committed a violation.

Also, many states have similar fraud and abuse statutes or regulations that may be broader in scope and may apply regardless of payor, in addition to items and services reimbursed under Medicaid and other state programs.

Eiger may be subject to data privacy and security regulation by both the federal government and the states in which Eiger conducts its business. HIPAA, as amended by the Health Information Technology for Economic and Clinical Health Act, or HITECH, and their respective implementing regulations, including the final Omnibus Rule published on January 25, 2013, imposes specified requirements relating to the privacy, security and transmission of individually identifiable health information. Among other things, HITECH makes HIPAA’s security standards directly applicable to business associates, defined as service providers of covered entities that create, receive, maintain or transmit protected health information in connection with providing a service for or on behalf of a covered entity. HITECH also created four new tiers of civil monetary penalties and gave state attorneys general new authority to file civil actions for damages or injunctions in federal courts to enforce the federal HIPAA laws and seek attorneys’ fees and costs associated with pursuing federal civil actions. In addition, many state laws govern the privacy and security of health information in certain circumstances, many of which differ from HIPAA and each other in significant ways and may not have the same effect, thus complicating compliance efforts.

In addition, there has been a recent trend of increased federal and state regulation of payments made to physicians and other healthcare providers. ACA imposed, among other things, new annual reporting requirements for covered manufacturers for certain payments and “transfers of value” provided to physicians and teaching hospitals, as well as ownership and investment interests held by physicians and their immediate family members. Failure to submit timely, accurately and completely the required information for all payments, transfers of value and ownership or investment interests may result in civil monetary penalties of up to an aggregate of \$150,000 per year and up to an aggregate of \$1 million per year for “knowing failures.” Covered manufacturers were required to begin collecting data on August 1, 2013 and submit reports on aggregate payment data to the government for the first reporting period (August 1, 2013—December 31, 2013) by March 31, 2014,

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and were required to report detailed payment data for the first reporting period and submit legal attestation to the completeness and accuracy of such data by June 30, 2014. Thereafter, covered manufacturers must submit reports by the 90th day of each subsequent calendar year. In addition, certain states require implementation of commercial compliance programs and compliance with the pharmaceutical industry's voluntary compliance guidelines and the relevant compliance guidance promulgated by the federal government, impose restrictions on marketing practices, and/or tracking and reporting of gifts, compensation and other remuneration or items of value provided to physicians and other healthcare professionals and entities.

If Eiger's operations are found to be in violation of any of the health regulatory laws described above or any other laws that apply to it, Eiger may be subject to penalties, including potentially significant criminal, civil and/or administrative penalties, damages, fines, disgorgement, exclusion from participation in government healthcare programs, contractual damages, reputational harm, administrative burdens, diminished profits and future earnings, and the curtailment or restructuring of its operations, any of which could adversely affect Eiger's ability to operate its business and its results of operations.

International Regulation

In addition to regulations in the United States, a variety of foreign regulations govern clinical trials, commercial sales, and distribution of drugs. Whether or not Eiger obtains FDA approval for a drug, Eiger or its collaborators must obtain approval of the drug by the comparable regulatory authorities of foreign countries before commencing clinical trials or marketing of the drug in those countries. The approval process varies from country to country and the time to approve may be longer or shorter than that required for FDA approval. Further, to the extent that any of Eiger's products are sold in a foreign country, Eiger may be subject to additional foreign laws and regulations, which may include, for instance, applicable post-marketing requirements, including safety surveillance, anti-fraud and abuse laws and implementation of corporate compliance programs and reporting of payments or transfers of value to healthcare professionals.

Pharmaceutical Coverage, Pricing and Reimbursement

In the United States and other countries, patients who are prescribed treatments for their conditions and providers performing the prescribed services generally rely on third-party payors to reimburse all or part of the associated healthcare costs. Patients are unlikely to use Eiger's products unless coverage is provided and reimbursement is adequate to cover a significant portion of the cost of its products. Sales of any products for which Eiger receives regulatory approval for commercial sale will therefore depend in part on the availability of reimbursement from third-party payors, including government health administrative authorities, managed care providers, private health insurers, and other organizations.

The process for determining whether a third-party payor will provide coverage for a drug product typically is separate from the process for setting the price of a drug product or for establishing the reimbursement rate that the payor will pay for the drug product once coverage is approved. Third-party payors may limit coverage to specific drug products on an approved list, also known as a formulary, which might not include all of the FDA-approved drugs for a particular indication. A decision by a third-party payor not to cover Eiger's product candidates could reduce physician utilization of Eiger's products once approved and have a material adverse effect on Eiger's sales, results of operations and financial condition. Moreover, a third-party payor's decision to provide coverage for a drug product does not imply that an adequate reimbursement rate will be approved. Adequate third-party reimbursement may not be available to enable Eiger to maintain price levels sufficient to realize an appropriate return on Eiger's investment in product development. Additionally, coverage and reimbursement for drug products can differ significantly from payor to payor. One third-party payor's decision to cover a particular medical product or service does not ensure that other payors will also provide coverage for the medical product or service, or will provide coverage at an adequate reimbursement rate. As a result, the coverage determination process will require Eiger to provide scientific and clinical support for the use of its products to each payor separately and will be a time-consuming process.

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The containment of healthcare costs has become a priority of federal, state and foreign governments, and the prices of drugs have been a focus in this effort. Third-party payors are increasingly challenging the prices charged for medical products and services, examining the medical necessity and reviewing the cost-effectiveness of drug products and medical services, in addition to questioning safety and efficacy. If these third-party payors do not consider Eiger's products to be cost-effective compared to other available therapies, they may not cover Eiger's products after FDA approval or, if they do, the level of payment may not be sufficient to allow Eiger to sell its products at a profit.

In addition, the U.S. government, state legislatures and foreign governments have continued implementing cost-containment programs, including price controls, restrictions on coverage and reimbursement and requirements for substitution of generic products. By way of example, in the United States, ACA contains provisions that may reduce the profitability of drug products. The ACA, among other things, increased the minimum Medicaid rebates owed by most manufacturers under the Medicaid Drug Rebate Program, extended the Medicaid Drug Rebate Program to utilization of prescriptions for individuals enrolled in Medicaid managed care plans, imposed mandatory discounts for certain Medicare Part D beneficiaries and subjected manufacturers to new annual fees based on pharmaceutical companies' share of sales to federal healthcare programs. Eiger expects that additional state and federal healthcare reform measures will be adopted in the future, any of which could limit the amounts that federal and state governments will pay for healthcare products and services, which could result in reduced demand for Eiger's products once approved or additional pricing pressures.

Other legislative changes have been proposed and adopted since ACA was enacted. On August 2, 2011, the President signed into law the Budget Control Act of 2011, which, among other things, created the Joint Select Committee on Deficit Reduction to recommend to Congress proposals in spending reductions. The Joint Select Committee did not recommend and Congress did not enact legislation to reduce the deficit by at least \$1.2 trillion for the years 2013 through 2021, triggering the legislation's automatic reduction to several government programs. This includes reductions to Medicare payments to providers of 2% per fiscal year, which went into effect on April 1, 2013 and will remain in effect through 2024 unless additional Congressional action is taken. On January 2, 2013, President Obama signed into law the American Taxpayer Relief Act of 2012, which, among other things, further reduced Medicare payments to several providers, including hospitals, imaging centers and cancer treatment centers.

Eiger expects that additional state and federal healthcare reform measures will be adopted in the future, any of which could limit the amounts that federal and state governments will pay for healthcare products and services, which could result in reduced demand for Eiger's products once approved or additional pricing pressures.

Research and Development Expenses

Celladon's research and development expenses were \$22.0 million, \$22.7 million and \$16.9 million for the years ended December 31, 2015, 2014 and 2013, respectively.

Employees

As of March 23, 2016, we had a total of ten full-time employees in the United States, five of whom were primarily engaged in research and development activities and five of whom were engaged in general management and administration. Five of our employees have either an M.D. or a Ph.D. None of our employees are represented by a labor union or subject to a collective bargaining agreement. We have never experienced any work stoppage and consider our relations with our employees to be good.

Corporate Information

We were originally incorporated in California in December 2000 as Celladon Corporation. In April 2012 we reincorporated in Delaware, and in March 2016 we merged with Eiger Biopharmaceuticals, Inc. and changed our

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name to Eiger Biopharmaceuticals, Inc. Our principal executive offices are located at 350 Cambridge Avenue, Suite 350, Palo Alto, CA 94306, and our telephone number is 650-272-6138. Our corporate website address is www.eigerbio.com. Our Annual Reports on Form 10-K, Quarterly Reports on Form 10-Q, Current Reports on Form 8-K, and amendments to reports filed pursuant to Sections 13(a) and 15(d) of the Securities Exchange Act of 1934, as amended, or the Exchange Act, will be made available free of charge on our website as soon as reasonably practicable after we electronically file such material with, or furnish it to, the SEC. The contents of our website are not incorporated into this Annual Report and our reference to the URL for our website is intended to be an inactive textual reference only.

This Annual Report on Form 10-K contains references to our trademarks and to trademarks belonging to other entities. Solely for convenience, trademarks and trade names referred to in this Annual Report on Form 10-K, including logos, artwork and other visual displays, may appear without the ® or TM symbols, but such references are not intended to indicate, in any way, that we will not assert, to the fullest extent under applicable law, our rights or the rights of the applicable licensor to these trademarks and trade names. We do not intend our use or display of other companies' trade names or trademarks to imply a relationship with, or endorsement or sponsorship of us by, any other company.

We are an "emerging growth company," as defined in the Jumpstart Our Business Startups Act of 2012. We will remain an emerging growth company until the earlier of (1) the last day of the fiscal year (a) following the fifth anniversary of the completion of our initial public offering in February 2014, (b) in which we have total annual gross revenue of at least \$1.0 billion, or (c) in which we are deemed to be a large accelerated filer, which means the market value of our common stock that is held by non-affiliates exceeded \$700.0 million as of the prior June 30th, and (2) the date on which we have issued more than \$1.0 billion in non-convertible debt during the prior three-year period. We refer to the Jumpstart Our Business Startups Act of 2012 in this Annual Report on Form 10-K as the "JOBS Act," and references to "emerging growth company" have the meaning associated with it in the JOBS Act.

Item 1A. Risk Factors

You should carefully consider the following risk factors, as well as the other information in this report, and in our other public filings. The occurrence of any of the following risks could harm our business, financial condition, results of operations and/or growth prospects or cause our actual results to differ materially from those contained in forward-looking statements we have made in this report and those we may make from time to time. You should consider all of the risk factors described when evaluating our business.

Risks Related to our Financial Condition, Integration and Capital Requirements

We have incurred losses since our inception, have a limited operating history on which to assess our business, and anticipate that we will continue to incur significant losses for the foreseeable future.

We are a clinical development-stage biopharmaceutical company with a limited operating history. We have incurred net losses in each year since Celladon's incorporation in 2000, including Celladon's consolidated net losses of \$44.4 million for the year ended December 31, 2015. As of December 31, 2015, Celladon had an accumulated deficit of approximately \$190.9 million. Our prior losses, combined with expected future losses, have had and may continue to have an adverse effect on our stockholders' equity and working capital.

We will continue to require substantial additional capital to continue Eiger's clinical development and potential commercialization activities. Accordingly, we will need to raise substantial additional capital to continue to fund our operations. The amount and timing of our future funding requirements will depend on many factors, including the pace and results of our clinical development efforts. Failure to raise capital as and when needed, on favorable terms or at all, would have a negative impact on our financial condition and our ability to develop our product candidates.

We have devoted substantially all of our financial resources to identify, acquire, and develop our product candidates, including conducting clinical studies and providing general and administrative support for our operations. To date, we have financed our operations primarily through the sale of equity securities. The amount of our future net losses will depend, in part, on the rate of our future expenditures and our ability to obtain funding through equity or debt financings, strategic collaborations, or grants. Biopharmaceutical product development is a highly speculative undertaking and involves a substantial degree of risk. We expect losses to increase as we advance three clinical candidates into Phase 2 development for potentially four indications. While we have not yet commenced pivotal clinical studies for any product candidate and it may be several years, if ever, before we complete pivotal clinical studies and have a product candidate approved for commercialization, we expect to invest significant funds into these clinical candidates to determine the potential to advance these compounds to regulatory approval.

If we obtain regulatory approval to market a product candidate, our future revenue will depend upon the size of any markets in which our product candidates may receive approval, and our ability to achieve sufficient market acceptance, pricing, reimbursement from third-party payors, and adequate market share for our product candidates in those markets. Even if we obtain adequate market share for our product candidates, because the potential markets in which our product candidates may ultimately receive regulatory approval could be very small, we may never become profitable despite obtaining such market share and acceptance of our products.

We expect to continue to incur significant expenses and increasing operating losses for the foreseeable future and our expenses will increase substantially if and as we:

- continue the clinical development of our product candidates;
- undertake the manufacturing or have manufactured our product candidates;
- advance our programs into larger, more expensive clinical studies;
- initiate additional nonclinical, clinical, or other studies for our product candidates;

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- identify, educate and develop potential commercial opportunities, such as hepatitis D virus biology for our lonafarnib product candidate;
- seek regulatory and marketing approvals and reimbursement for our product candidates;
- establish a sales, marketing, and distribution infrastructure to commercialize any products for which we may obtain marketing approval and market for itself;
- seek to identify, assess, acquire, and/or develop other product candidates;
- make milestone, royalty or other payments under third party license agreements;
- seek to maintain, protect, and expand our intellectual property portfolio;
- seek to attract and retain skilled personnel;
- create additional infrastructure to support our operations as a public company and our product development and planned future commercialization efforts; and
- experience any delays or encounter issues with the development and potential for regulatory approval of our clinical candidates such as safety issues, clinical trial accrual delays, longer follow-up for planned studies, additional major studies, or supportive studies necessary to support marketing approval.

Further, the net losses we incur may fluctuate significantly from quarter to quarter and year to year, such that a period-to-period comparison of our results of operations may not be a representative indication of our future performance. In particular, our historical financial statements, including for the year ended December 31, 2015, are those of Celladon and reflect Celladon's historical business operations.

We have never generated any revenue from product sales and may never be profitable.

We have no products approved for commercialization and have never generated any revenue. Our ability to generate revenue and achieve profitability depends on our ability, alone or with strategic collaboration partners, to successfully complete the development of, and obtain the regulatory and marketing approvals necessary to commercialize, one or more of our product candidates. We do not anticipate generating revenue from product sales for the foreseeable future. Our ability to generate future revenue from product sales depends heavily on our success in many areas, including but not limited to:

- completing research and development of our product candidates;
- obtaining regulatory and marketing approvals for our product candidates;
- manufacturing product candidates and establishing and maintaining supply and manufacturing relationships with third parties that meet regulatory requirements and our supply needs in sufficient quantities to meet market demand for our product candidates, if approved;
- marketing, launching and commercializing product candidates for which we obtain regulatory and marketing approval, either directly or with a collaborator or distributor;
- gaining market acceptance of our product candidates as treatment options;
- addressing any competing products;
- protecting and enforcing our intellectual property rights, including patents, trade secrets, and know-how;
- negotiating favorable terms in any collaboration, licensing, or other arrangements into which we may enter;
- obtaining reimbursement or pricing for our product candidates that supports profitability; and
- attracting, hiring, and retaining qualified personnel.

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Even if one or more of the product candidates that we develop is approved for commercial sale, we anticipate incurring significant costs associated with commercializing any approved product candidate. Our current pipeline of product candidates has been in-licensed from third parties and we will have to develop or acquire manufacturing capabilities in order to continue development and potential commercialization of our product candidates. Additionally, if we are not able to generate revenue from the sale of any approved products, we may never become profitable.

Raising additional capital may cause dilution to our stockholders, restrict our operations or require us to relinquish rights.

To the extent that we raise additional capital through the sale of equity, debt or other securities convertible into equity, your ownership interest will be diluted, and the terms of these new securities may include liquidation or other preferences that adversely affect your rights as a common stockholder. Debt financing, if available at all, would likely involve agreements that include covenants limiting or restricting our ability to take specific actions, such as incurring additional debt, making capital expenditures, making additional product acquisitions, or declaring dividends. If we raise additional funds through collaborations, strategic alliances or licensing arrangements with third parties, we may have to relinquish valuable rights to our product candidates or future revenue streams or grant licenses on terms that are not favorable to us. We cannot assure you that we will be able to obtain additional funding if and when necessary to fund our entire portfolio of product candidates to meet our projected plans. If we are unable to obtain funding on a timely basis, we may be required to delay or discontinue one or more of our development programs or the commercialization of any product candidates or be unable to expand our operations or otherwise capitalize on potential business opportunities, which could materially affect our business, financial condition, and results of operations.

We recently completed the merger with Celladon Corporation and the failure to integrate successfully the operations of the combined company could adversely affect our future results.

Our success will depend, in significant part, on our ability to realize the anticipated benefits from combining the operations of the combined Private Eiger-Celladon enterprise. The failure to integrate successfully and to manage successfully the challenges presented by the integration process may result in our failure to achieve some or all of the anticipated benefits of the merger. Potential difficulties that may be encountered in the integration process include the following:

- using our cash and assets efficiently to develop our business;
- appropriately managing our liabilities;
- potential unknown or currently unquantifiable liabilities associated with the merger and our operations;
- difficulties in operating with a new management team as a public company; and
- performance shortfalls as a result of the diversion of the management's attention caused by integrating the companies' operations.

Risks Related to the Development of our Product Candidates

We are heavily dependent on the success of our product candidates, which are in the early stages of clinical development. Certain of our product candidates have produced results in academic settings to date or for other indications than those that we contemplate and we cannot give any assurance that we will generate data for any of our product candidates sufficient to receive regulatory approval in our planned indications, which will be required before they can be commercialized.

To date, we have invested substantially all of our efforts and financial resources to identify, acquire, and develop our portfolio of product candidates. Our future success is dependent on our ability to successfully further develop, obtain regulatory approval for, and commercialize one or more of these product candidates. We currently generate no revenue from sales of any drugs, and we may never be able to develop or commercialize a product candidate.

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We currently have three product candidates in or ready for four Phase 1/2 or Phase 2 clinical studies. One of our product candidates, exendin (9-39), has only generated data in an academic setting and we may not be able to replicate or develop additional data to satisfy regulatory requirements for approval. For ubenimex, data to date has been developed for use in indications other than those that we have rights to or in which we plan to develop the product candidate. There can be no assurance that the data that we develop for our product candidates in our planned indications will be sufficient to obtain regulatory approval.

In addition, none of our product candidates have advanced into a pivotal study for our proposed indications and it may be years before such study is initiated and completed, if at all. We are not permitted to market or promote any of our product candidates before we receive regulatory approval from the FDA or comparable foreign regulatory authorities, and we may never receive such regulatory approval for any of our product candidates. We cannot be certain that any of our product candidates will be successful in clinical studies or receive regulatory approval. Further, our product candidates may not receive regulatory approval even if they are successful in clinical studies. If we do not receive regulatory approvals for our product candidates, we may not be able to continue our operations.

Our business strategy is based upon obtaining orphan drug designation for our product candidates, which is an uncertain process. The regulatory approval processes of the FDA and comparable foreign authorities are lengthy, time consuming, and inherently unpredictable. If we are unable to obtain orphan drug designation or regulatory approval for our product candidates, our business will be substantially harmed.

Our approach to identifying and developing product candidates depends, in large part, on our ability to obtain orphan drug designation from regulatory authorities in major markets. Without the protection of this regulatory exclusivity, many of our product candidates would otherwise not justify investment as they are not protected by patents or they are otherwise marketed or generic products. While we assess the potential for obtaining orphan drug designation at the time that we contemplate the acquisition of product candidates and we intend to timely file for such designation, there can be no assurance that we will obtain orphan drug designation or be able to successfully meet the regulatory requirements to maintain that designation with the planned clinical trials for our product candidates. Failure to obtain orphan drug designation would make our product candidates significantly less competitive and potentially not viable investments for further development.

The time required to obtain approval by the FDA and comparable foreign authorities is unpredictable, typically takes many years following the commencement of clinical studies, and depends upon numerous factors. In addition, approval policies, regulations, or the type and amount of clinical data necessary to gain approval may change during the course of a product candidate's clinical development and may vary among jurisdictions, which may cause delays in the approval or the decision not to approve an application. We have not obtained regulatory approval for any product candidate, and it is possible that none of our existing product candidates or any product candidates we may seek to develop in the future will ever obtain regulatory approval.

Applications for our product candidates could fail to receive regulatory approval for many reasons, including but not limited to the following:

- the FDA or comparable foreign regulatory authorities may disagree with the design, size or implementation of our clinical studies;
- the population studied in the clinical program may not be sufficiently broad or representative to assure safety in the full population for which we seek approval;
- the FDA or comparable foreign regulatory authorities may disagree with our interpretation of data from our development efforts;
- the data collected from clinical studies of our product candidates may not be sufficient to support the submission of a new drug application, or NDA, or other submission or to obtain regulatory approval in the United States or foreign jurisdictions;

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- the FDA or comparable foreign regulatory authorities may find failures in our manufacturing processes, validation procedures and specifications, or facilities of our third-party manufacturers with which we contract for clinical and commercial supplies that may delay or limit our ability to obtain regulatory approval for our product candidates; and
- the approval policies or regulations of the FDA or comparable foreign regulatory authorities may significantly change in a manner rendering our NDA or other submission insufficient for approval.

The lengthy and uncertain regulatory approval process, as well as the unpredictability of the results of clinical studies, may result in our failing to obtain regulatory approval to market any of our product candidates, which would significantly harm our business, results of operations, and prospects. In addition, although we have obtained orphan drug designation for two of our product candidates in our planned indications to date, there can be no assurance that the FDA will grant our similar status for our other proposed development indications or other product candidates in the future.

Drug development involves a lengthy and expensive process with an uncertain outcome, and results of earlier studies may not be predictive of future study results.

Clinical testing is expensive and generally takes many years to complete, and the outcome is inherently uncertain. Failure can occur at any time during the clinical study process. The results of preclinical studies and early clinical studies of our product candidates may not be predictive of the results of larger, later-stage controlled clinical studies. Product candidates that have shown promising results in early-stage clinical studies may still suffer significant setbacks in subsequent clinical studies. Our clinical studies to date have been conducted on a small number of patients in limited numbers of clinical sites and in academic settings or for other indications. We will have to conduct larger, well-controlled studies in our proposed indications to verify the results obtained to date and to support any regulatory submissions for further clinical development. A number of companies in the biopharmaceutical industry have suffered significant setbacks in advanced clinical studies due to lack of efficacy or adverse safety profiles despite promising results in earlier, smaller clinical studies. Moreover, clinical data are often susceptible to varying interpretations and analyses. We do not know whether any Phase 2, Phase 3, or other clinical studies we may conduct will demonstrate consistent or adequate efficacy and safety with respect to the proposed indication for use sufficient to obtain regulatory approval to receive regulatory approval or market our drug candidates.

We may find it difficult to enroll patients in our clinical studies given the limited number of patients who have the diseases for which our product candidates are being studied. Difficulty in enrolling patients could delay or prevent clinical studies of our product candidates.

Identifying and qualifying patients to participate in clinical studies of our product candidates is essential to our success. The timing of our clinical studies depends in part on the rate at which we can recruit patients to participate in clinical trials of our product candidates, and we may experience delays in our clinical studies if we encounter difficulties in enrollment.

The eligibility criteria of our planned clinical studies may further limit the available eligible study participants as we expect to require that patients have specific characteristics that we can measure or meet the criteria to assure their conditions are appropriate for inclusion in our clinical studies. We may not be able to identify, recruit, and enroll a sufficient number of patients to complete our clinical studies in a timely manner because of the perceived risks and benefits of the product candidate under study, the availability and efficacy of competing therapies and clinical studies, and the willingness of physicians to participate in our planned clinical studies. If patients are unwilling to participate in our clinical studies for any reason, the timeline for conducting studies and obtaining regulatory approval of our product candidates may be delayed.

If we experience delays in the completion of, or termination of, any clinical study of our product candidates, the commercial prospects of our product candidates could be harmed, and our ability to generate product revenue from any of these product candidates could be delayed or prevented. In addition, any delays in completing our

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clinical studies would likely increase our overall costs, impair product candidate development and jeopardize our ability to obtain regulatory approval relative to our current plans. Any of these occurrences may harm our business, financial condition, and prospects significantly.

Clinical studies are costly, time consuming and inherently risky, and we may fail to demonstrate safety and efficacy to the satisfaction of applicable regulatory authorities.

Clinical development is expensive, time consuming and involves significant risk. We cannot guarantee that any clinical studies will be conducted as planned or completed on schedule, if at all. A failure of one or more clinical studies can occur at any stage of development. Events that may prevent successful or timely completion of clinical development include but are not limited to:

- inability to generate satisfactory preclinical, toxicology, or other in vivo or in vitro data or diagnostics to support the initiation or continuation of clinical studies necessary for product approval;
- delays in reaching agreement on acceptable terms with CROs and clinical study sites, the terms of which can be subject to extensive negotiation and may vary significantly among different CROs and clinical study sites;
- delays in obtaining required Institutional Review Board, or IRB, approval at each clinical study site;
- failure to permit the conduct of a study by regulatory authorities, after review of an investigational new drug, or IND, or equivalent foreign application or amendment;
- delays in recruiting qualified patients in our clinical studies;
- failure by clinical sites or our CROs or other third parties to adhere to clinical study requirements;
- failure to perform the clinical studies in accordance with the FDA's good clinical practices requirements, or applicable foreign regulatory guidelines;
- patients dropping out of our clinical studies;
- occurrence of adverse events associated with our product candidates;
- changes in regulatory requirements and guidance that require amending or submitting new clinical protocols;
- the cost of clinical studies of our product candidates;
- negative or inconclusive results from our clinical trials which may result in our deciding, or regulators requiring us, to conduct additional clinical studies or abandon development programs in other ongoing or planned indications for a product candidate; and
- delays in reaching agreement on acceptable terms with third party manufacturers and the time for manufacture of sufficient quantities of our product candidates for use in clinical studies.

Any inability to successfully complete clinical development and obtain regulatory approval could result in additional costs to us or impair our ability to generate revenue. In addition, if we make manufacturing or formulation changes to our product candidates, such as our plan to manufacture a new subcutaneous formulation of exendin (9-39), we may need to conduct additional studies or the results obtained from such new formulation may not be consistent with previous results obtained. Clinical study delays could also shorten any periods during which our products have patent protection and may allow competitors to develop and bring products to market before we do, which could impair our ability to obtain orphan drug designation exclusivity and to successfully commercialize our product candidates and may harm our business and results of operations.

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Our product candidates may cause undesirable side effects or have other properties that could delay or prevent their regulatory approval, limit the commercial profile of an approved label, or result in significant negative consequences following marketing approval, if any.

Undesirable side effects caused by our product candidates could cause us or regulatory authorities to interrupt, delay, or terminate clinical studies or even if approved, result in a restrictive label or delay regulatory approval by the FDA or comparable foreign authorities.

In addition, while our lonafamib product candidate has been studied in thousands of oncology patients and the most common non-hematologic adverse events of any grade were gastrointestinal system disorders (nausea, anorexia, diarrhea and vomiting), fatigue and rash, treatment discontinuation across the lonafamib clinical studies conducted in oncology has been in the range of approximately 20-25% and we may experience comparable or higher rates of discontinuation in testing in our anti-viral, hepatitis D virus studies. There is no guarantee that additional or more severe side effects will not be identified through ongoing clinical studies by other licensees of lonafamib for other indications or our own clinical trials. Merck, our licensor, has granted rights to develop lonafamib in progeria, a rare, fatal rapid aging disease, to The Progeria Research Foundation, which studies may result in side effects in indications other than our use of lonafamib for hepatitis D. Additionally, while we have a license to another farnesyltransferase inhibitor compound, tipifamib, from Janssen Pharmaceutica, N.V., or Janssen, Janssen has granted rights to tipifamib to Kura Oncology, Inc., or Kura, in oncology (as tipifamib) and negative results or undesirable side effects from Kura's clinical trials for a compound with a similar mechanism of action may negatively impact the perception of lonafamib for anti-viral indications. Merck may also grant rights to other anti-viral or potentially other indications to other third parties. Undesirable side effects and negative results for other indications may negatively impact the development and potential for approval of our product candidates for our proposed indications.

Additionally, even if one or more of our product candidates receives marketing approval, and we or others later identify undesirable side effects caused by such products, potentially significant negative consequences could result, including but not limited to:

- regulatory authorities may withdraw approvals of such products;
- regulatory authorities may require additional warnings on the label;
- we may be required to create a Risk Evaluation and Mitigation Strategy, or REMS, plan, which could include a medication guide outlining the risks of such side effects for distribution to patients, a communication plan for healthcare providers, and/or other elements to assure safe use;
- we could be sued and held liable for harm caused to patients; and
- our reputation may suffer.

Any of these events could prevent us from achieving or maintaining market acceptance of a product candidate, even if approved, and could significantly harm our business, results of operations, and prospects.

Even if we obtain regulatory approval for a product candidate, we will remain subject to ongoing regulatory requirements.

If our product candidates are approved, they will be subject to ongoing regulatory requirements with respect to manufacturing, labeling, packaging, storage, advertising, promotion, sampling, record-keeping, conduct of post-marketing studies, and submission of safety, efficacy and other post-approval information, including both federal and state requirements in the United States and requirements of comparable foreign regulatory authorities.

Manufacturers and manufacturers' facilities are required to continuously comply with FDA and comparable foreign regulatory authority requirements, including ensuring that quality control and manufacturing procedures

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conform to current Good Manufacturing Practices, or cGMP, regulations and corresponding foreign regulatory manufacturing requirements. As such, we and our contract manufacturers will be subject to continual review and inspections to assess compliance with cGMP and adherence to commitments made in any NDA or marketing authorization application, or MAA.

Any regulatory approvals that we receive for our product candidates may be subject to limitations on the approved indicated uses for which the product candidate may be marketed or to the conditions of approval, or contain requirements for potentially costly post-marketing testing, including Phase IV clinical trials, and surveillance to monitor the safety and efficacy of the product candidate. We will be required to report certain adverse reactions and production problems, if any, to the FDA and comparable foreign regulatory authorities. Any new legislation addressing drug safety issues could result in delays in product development or commercialization, or increased costs to assure compliance. If our original marketing approval for a product candidate was obtained through an accelerated approval pathway, we could be required to conduct a successful post-marketing clinical study in order to confirm the clinical benefit for our products. An unsuccessful post-marketing study or failure to complete such a study could result in the withdrawal of marketing approval.

If a regulatory agency discovers previously unknown problems with a product, such as adverse events of unanticipated severity or frequency, or problems with the facility where the product is manufactured, or disagrees with the promotion, marketing, or labeling of a product, the regulatory agency may impose restrictions on that product or us, including requiring withdrawal of the product from the market. If we fail to comply with applicable regulatory requirements, a regulatory agency or enforcement authority may, among other things:

- issue warning letters;
- impose civil or criminal penalties;
- suspend or withdraw regulatory approval;
- suspend any of our ongoing clinical studies;
- refuse to approve pending applications or supplements to approved applications submitted by us;
- impose restrictions on our operations, including closing our contract manufacturers' facilities; or
- require a product recall.

Any government investigation of alleged violations of law would be expected to require us to expend significant time and resources in response and could generate adverse publicity. Any failure to comply with ongoing regulatory requirements may significantly and adversely affect our ability to develop and commercialize our products and the value of us and our operating results would be adversely affected.

We rely on third parties to conduct our clinical studies, manufacture our product candidates and perform other services. If these third parties do not successfully perform and comply with regulatory requirements, we may not be able to successfully complete clinical development, obtain regulatory approval or commercialize our product candidates and our business could be substantially harmed.

We have relied upon and plans to continue to rely upon third-party CROs to conduct, monitor and manage our ongoing clinical programs. We rely on these parties for execution of clinical studies and manage and control only certain aspects of their activities. We remain responsible for ensuring that each of our studies is conducted in accordance with the applicable protocol, legal, regulatory, and scientific standards, and our reliance on the CROs does not relieve us of our regulatory responsibilities. We and our CROs and other vendors are required to comply all applicable laws, regulations and guidelines, including those required by the FDA and comparable foreign regulatory authorities for all of our product candidates in clinical development. If we or any of our CROs or vendors fail to comply with applicable laws, regulations and guidelines, the results generated in our clinical studies may be deemed unreliable and the FDA or comparable foreign regulatory authorities may require us to

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perform additional studies before approving our marketing applications. We cannot assure you that our CROs and other vendors will meet these requirements, or that upon inspection by any regulatory authority, such regulatory authority will determine that efforts, including any of our clinical studies, comply with applicable requirements. Our failure to comply with these laws, regulations and guidelines may require us to repeat clinical studies, which would be costly and delay the regulatory approval process.

If any of our relationships with these third-party CROs terminate, we may not be able to enter into arrangements with alternative CROs in a timely manner or do so on commercially reasonable terms. In addition, our CROs may not prioritize our clinical studies relative to those of other customers and any turnover in personnel or delays in the allocation of CRO employees by the CRO may negatively affect our clinical studies. If CROs do not successfully carry out their contractual duties or obligations or meet expected deadlines, our clinical studies may be delayed or terminated and we may not be able to meet our current plans with respect to our product candidates. CROs may also involve higher costs than anticipated, which could negatively affect our financial condition and operations.

In addition, we do not currently have, nor do we plan to establish the capability to manufacture product candidates for use in the conduct of our clinical studies, and we lack the resources and the capability to manufacture any of our product candidates on a clinical or commercial scale without the use of third party manufacturers. We plan to rely on third party manufacturers and their responsibilities will include purchasing from third-party suppliers the materials necessary to produce our product candidates for our clinical studies and regulatory approval. There are expected to be a limited number of suppliers for the active ingredients and other materials that we expect to use to manufacture our product candidates, and we may not be able to identify alternative suppliers to prevent a possible disruption of the manufacture of our product candidates for our clinical studies, and, if approved, ultimately for commercial sale. Although we generally do not expect to begin a clinical study unless we believe we have a sufficient supply of a product candidate to complete the study, any significant delay or discontinuity in the supply of a product candidate, or the active ingredient or other material components in the manufacture of the product candidate, could delay completion of our clinical studies and potential timing for regulatory approval of our product candidates, which would harm our business and results of operations.

With respect to our lonafarnib and ubenimex product candidates, we rely on Merck and Nippon Kayaku, respectively to supply our clinical study materials and we do not have long-term supply agreements or commitments from those parties to supply our materials. Moreover, even if we have a longer term supply arrangement, we may be precluded from entering into a back-up or alternative supplier arrangement which may increase the risk for further development, regulatory approval, or commercialization of our product candidates. For example, our current agreement with Nippon Kayaku provides for such party to be our exclusive supplier for our ubenimex product candidate, which may increase our cost of goods and may not support FDA or other regulatory authority approval for manufacturing.

We rely and expect to continue to rely on third parties to manufacture our clinical product supplies, and if those third parties fail to obtain approval of government regulators, fail to provide us with sufficient quantities of drug product, or fail to do so at acceptable quality levels or prices our product candidates could be stopped, delayed, or made less profitable.

We do not currently have nor do we plan to acquire the infrastructure or capability internally to manufacture our clinical supplies for use in the conduct of our clinical trials, and we lack the resources and the capability to manufacture any of our product candidates on a clinical or commercial scale. We currently rely on outside vendors to source raw materials and manufacture our clinical supplies of our product candidates and plan to continue relying on third parties to manufacture our product candidates on a commercial scale, if approved.

The facilities used by our contract manufacturers to manufacture our product candidates must be approved by the FDA pursuant to inspections that will be conducted after we submit our marketing applications to the FDA. We do not control the manufacturing process of, and are completely dependent on, our contract

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manufacturing partners for compliance with the regulatory requirements, known as cGMPs, for manufacture of our product candidates. If our contract manufacturers cannot successfully manufacture material that conforms to our specifications and the strict regulatory requirements of the FDA or others, they will not be able to secure and/or maintain regulatory approval for their manufacturing facilities. In addition, we have no control over the ability of our contract manufacturers to maintain adequate quality control, quality assurance and qualified personnel. If the FDA or a comparable foreign regulatory authority does not approve these facilities for the manufacture of our product candidates or if it withdraws any such approval in the future, we may need to find alternative manufacturing facilities, which would significantly impact our ability to develop, obtain regulatory approval for or market our product candidates, if approved.

We do not yet have sufficient information to reliably estimate the cost of the commercial manufacturing of our product candidates, and the actual cost to manufacture our product candidates could materially and adversely affect the commercial viability of our product candidates. As a result, we may never be able to develop a commercially viable product.

In addition, our reliance on third-party manufacturers exposes us to the following additional risks:

- We may be unable to identify manufacturers on acceptable terms or at all.
- Our third-party manufacturers might be unable to timely formulate and manufacture our product or produce the quantity and quality required to meet our clinical and commercial needs, if any.
- Contract manufacturers may not be able to execute our manufacturing procedures appropriately.
- Our future contract manufacturers may not perform as agreed or may not remain in the contract manufacturing business for the time required to supply our clinical trials or to successfully produce, store and distribute our products.
- Manufacturers are subject to ongoing periodic unannounced inspection by the FDA and corresponding state agencies to ensure strict compliance with cGMP and other government regulations and corresponding foreign standards. We do not have control over third-party manufacturers' compliance with these regulations and standards.
- We may not own, or may have to share, the intellectual property rights to any improvements made by our third-party manufacturers in the manufacturing process for our product candidates.
- Our third-party manufacturers could breach or terminate their agreement with us.

Each of these risks could delay our clinical trials, the approval, if any of our product candidates by the FDA or the commercialization of our product candidates or result in higher costs or deprive us of potential product revenue. In addition, we rely on third parties to perform release testing on our product candidates prior to delivery to patients. If these tests are not appropriately conducted and test data are not reliable, patients could be put at risk of serious harm and could result in product liability suits.

The manufacture of medical products is complex and requires significant expertise and capital investment, including the development of advanced manufacturing techniques and process controls. Manufacturers of biologic products often encounter difficulties in production, particularly in scaling up and validating initial production and absence of contamination. These problems include difficulties with production costs and yields, quality control, including stability of the product, quality assurance testing, operator error, shortages of qualified personnel, as well as compliance with strictly enforced federal, state and foreign regulations. Furthermore, if contaminants are discovered in our supply of our product candidates or in the manufacturing facilities, such manufacturing facilities may need to be closed for an extended period of time to investigate and remedy the contamination. We cannot assure you that any stability or other issues relating to the manufacture of our product candidates will not occur in the future. Additionally, our manufacturers may experience manufacturing difficulties due to resource constraints or as a result of labor disputes or unstable political environments. If our

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manufacturers were to encounter any of these difficulties, or otherwise fail to comply with their contractual obligations, our ability to provide our product candidates to patients in clinical trials would be jeopardized. Any delay or interruption in the supply of clinical trial supplies could delay the completion of clinical trials, increase the costs associated with maintaining clinical trial programs and, depending upon the period of delay, require us to commence new clinical trials at additional expense or terminate clinical trials completely.

If the market opportunities for our product candidates are smaller than we believe they are, we may not meet our revenue expectations and, even assuming approval of a product candidate, our business may suffer. Because the patient populations in the market for our product candidates may be small, we must be able to successfully identify patients and acquire a significant market share to achieve profitability and growth.

We focus our research and product development on treatments for orphan diseases. Given the small number of patients who have the diseases that we are targeting, our eligible patient population and pricing estimates may differ significantly from the actual market addressable by our product candidate. Our projections of both the number of people who have these diseases, as well as the subset of people with these diseases who have the potential to benefit from treatment with our product candidates, are based on our beliefs and estimates. These estimates have been derived from a variety of sources, including the scientific literature, patient foundations, or market research, and may prove to be incorrect. Further, new studies may change the estimated incidence or prevalence of these diseases. The number of patients may turn out to be lower than expected. For example, for lonafamib, HDV is related to hepatitis B virus, and there is limited scientific literature in support of a causal link between these two viruses. Although we believe that the data are supportive of the increased severity of hepatitis in the presence of hepatitis D with hepatitis B virus, there can be no assurance that our clinical trials will successfully address this recently observed condition. Likewise, the potentially addressable patient population for each of our product candidates may be limited or may not be amenable to treatment with our product candidates, and new patients may become increasingly difficult to identify or gain access to, which would adversely affect our results of operations and our business.

We face intense competition and rapid technological change and the possibility that our competitors may develop therapies that are similar, more advanced, or more effective than ours, which may adversely affect our financial condition and our ability to successfully commercialize our product candidates.

The biotechnology and pharmaceutical industries are intensely competitive and subject to rapid and significant technological change. We are currently aware of various existing therapies that may compete with our product candidates. For example, we have competitors both in the United States and internationally, including multinational pharmaceutical companies, specialty pharmaceutical companies and biotechnology companies. Some of the pharmaceutical and biotechnology companies we expect to compete with include Gilead, Replicor, Novartis, Xoma and Arena as well as other smaller companies or biotechnology startups and large multinational pharmaceutical companies. Many of our competitors have substantially greater financial, technical, and other resources, such as larger research and development staff and experienced marketing and manufacturing organizations. Additional mergers and acquisitions in the biotechnology and pharmaceutical industries may result in even more resources being concentrated in our competitors. As a result, these companies may obtain regulatory approval more rapidly than we are able to and may be more effective in selling and marketing their products as well. Smaller or early-stage companies may also prove to be significant competitors, particularly through collaborative arrangements with large, established companies. Competition may increase further as a result of advances in the commercial applicability of technologies and greater availability of capital for investment in these industries. Our competitors may succeed in developing, acquiring, or licensing on an exclusive basis, products that are more effective or less costly than any product candidate that we may develop, or achieve earlier patent protection, regulatory approval, product commercialization, and market penetration than we do. Additionally, technologies developed by our competitors may render our potential product candidates uneconomical or obsolete, and we may not be successful in marketing our product candidates against competitors.

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We currently have limited marketing and sales experience. If we are unable to establish sales and marketing capabilities or enter into agreements with third parties to market and sell our product candidates, we may be unable to generate any revenue.

Although certain of our employees may have marketed, launched, and sold other pharmaceutical products in the past while employed at other companies, we have no recent experience selling and marketing our product candidates and we currently have no marketing or sales organization. To successfully commercialize any products that may result from our development programs, we will need to invest in and develop these capabilities, either on our own or with others, which would be expensive, difficult and time consuming. Any failure or delay in the timely development of our internal commercialization capabilities could adversely impact the potential for success of our products.

Further, given our lack of prior experience in marketing and selling biopharmaceutical products, we may rely on future collaborators to commercialize our products. If collaborators do not commit sufficient resources to commercialize our future products and we are unable to develop the necessary marketing and sales capabilities on our own, we will be unable to generate sufficient product revenue to sustain or grow our business. We may be competing with companies that currently have extensive and well-funded marketing and sales operations, in particular in the markets our product candidates are intended to address. Without appropriate capabilities, whether directly or through third party collaborators, we may be unable to compete successfully against these more established companies.

The commercial success of any of our current or future product candidate will depend upon the degree of market acceptance by physicians, patients, third-party payors, and others in the medical community.

Even with the approvals from the FDA and comparable foreign regulatory authorities, the commercial success of our products will depend in part on the health care providers, patients, and third-party payors accepting our product candidates as medically useful, cost-effective, and safe. Any product that we bring to the market may not gain market acceptance by physicians, patients, third-party payors and other health care providers. The degree of market acceptance of any of our products will depend on a number of factors, including without limitation:

- the efficacy of the product as demonstrated in clinical studies and potential advantages over competing treatments;
- the prevalence and severity of the disease and any side effects;
- the clinical indications for which approval is granted, including any limitations or warnings contained in a product's approved labeling;
- the convenience and ease of administration;
- the cost of treatment;
- the willingness of the patients and physicians to accept these therapies;
- the marketing, sales and distribution support for the product;
- the publicity concerning our products or competing products and treatments; and
- the pricing and availability of third-party insurance coverage and reimbursement.

Even if a product displays a favorable efficacy and safety profile upon approval, market acceptance of the product remains uncertain. Efforts to educate the medical community and third-party payors on the benefits of the products may require significant investment and resources and may never be successful. If our products fail to achieve an adequate level of acceptance by physicians, patients, third-party payors, and other health care providers, we will not be able to generate sufficient revenue to become or remain profitable.

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Failure to obtain or maintain adequate reimbursement or insurance coverage for new or current products could limit our ability to market those products and decrease our ability to generate revenue.

The pricing, coverage, and reimbursement of our products must be sufficient to support our commercial efforts and other development programs and the availability and adequacy of coverage and reimbursement by governmental and private payors are essential for most patients to be able to afford expensive treatments, particularly in orphan drug designated indications where the eligible patient population is small. Sales of our product candidates will depend substantially, both domestically and abroad, on the extent to which the costs of our product candidates will be paid for or reimbursed by health maintenance, managed care, pharmacy benefit and similar healthcare management organizations, or government authorities, private health insurers, and other third-party payors. If coverage and reimbursement are not available, or are available only in limited amounts, we may have to subsidize or provide products for free or we may not be able to successfully commercialize our products.

In addition, there is significant uncertainty related to the insurance coverage and reimbursement for newly approved products. In the United States, the principal decisions about coverage and reimbursement for new drugs are typically made by the Centers for Medicare & Medicaid Services, or CMS, an agency within the U.S. Department of Health and Human Services, as CMS decides whether and to what extent a new drug will be covered and reimbursed under Medicare. Private payors tend to follow the coverage reimbursement policies established by CMS to a substantial degree. It is difficult to predict what CMS will decide with respect to reimbursement for products such as ours and what reimbursement codes our products may receive.

Outside the United States, international operations are generally subject to extensive governmental price controls and other price-restrictive regulations, and we believe the increasing emphasis on cost-containment initiatives in Europe, Canada, and other countries has and will continue to put pressure on the pricing and usage of products. In many countries, the prices of products are subject to varying price control mechanisms as part of national health systems. Price controls or other changes in pricing regulation could restrict the amount that we are able to charge for our products. Accordingly, in markets outside the United States, the potential revenue may be insufficient to generate commercially reasonable revenue and profits.

Moreover, increasing efforts by governmental and third-party payors in the United States and abroad to limit or reduce healthcare costs may result in restrictions on coverage and the level of reimbursement for new products and, as a result, they may not cover or provide adequate payment for our products. We expect to experience pricing pressures in connection with products due to the increasing trend toward managed healthcare, including the increasing influence of health maintenance organizations and additional legislative changes. The downward pressure on healthcare costs in general, particularly prescription drugs has and is expected to continue to increase in the future. As a result, profitability of our products may be more difficult to achieve even if they receive regulatory approval.

We intend to rely on a combination of exclusivity from orphan drug designation as well as patent rights for our product candidates and any future product candidates. If we are unable to obtain or maintain exclusivity from the combination of these approaches, we may not be able to compete effectively in our markets.

Our business strategy is to focus on product candidates for which orphan drug designation may be obtained in the major markets of the world. In addition, we rely or will rely upon a combination of patents, trade secret protection, and confidentiality agreements to protect the intellectual property related to our technologies and product candidates. For example, the portfolio of patents licensed from Merck expires before the anticipated launch date of the lonafamib product candidate. Our success depends in large part on our and our licensors' ability to obtain regulatory exclusivity and maintain patent and other intellectual property protection in the United States and in other countries with respect to our proprietary technology and products.

Under the Orphan Drug Act, the FDA may designate a product as an orphan drug if it is intended to treat a rare disease or condition, defined as a patient population of fewer than 200,000 in the United States, or a patient

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population greater than 200,000 in the United States where there is no reasonable expectation that the cost of developing the drug will be recovered from sales in the United States. In the European Union, the EMA's Committee for Orphan Medicinal Products, or COMP, grants orphan drug designation to promote the development of products that are intended for the diagnosis, prevention, or treatment of a life-threatening or chronically debilitating condition affecting not more than five in 10,000 persons in the European Union. Additionally, designation is granted for products intended for the diagnosis, prevention, or treatment of a life-threatening, seriously debilitating or serious and chronic condition when, without incentives, it is unlikely that sales of the drug in the European Union would be sufficient to justify the necessary investment in developing the drug or biological product or where there is no satisfactory method of diagnosis, prevention, or treatment, or, if such a method exists, the medicine must be of significant benefit to those affected by the condition.

In the United States, orphan drug designation entitles a party to financial incentives such as opportunities for grant funding towards clinical trial costs, tax advantages, and user-fee waivers. In addition, if a product receives the first FDA approval for the indication for which it has orphan drug designation, the product is entitled to orphan drug exclusivity, which means the FDA may not approve any other application to market the same drug for the same indication for a period of seven years, except in limited circumstances, such as a showing of clinical superiority over the product with orphan exclusivity or where the manufacturer is unable to assure sufficient product quantity. In the European Union, orphan drug designation entitles a party to financial incentives such as reduction of fees or fee waivers and ten years of market exclusivity following drug or biological product approval. This period may be reduced to six years if the orphan drug designation criteria are no longer met, including where it is shown that the product is sufficiently profitable not to justify maintenance of market exclusivity.

Because the extent and scope of patent protection for our products may in some cases be limited, orphan drug designation is especially important for our products for which orphan drug designation may be available. For eligible drugs, we plan to rely on the exclusivity period under the Orphan Drug Act to maintain a competitive position. If we do not obtain orphan drug exclusivity for our drug products and biologic products that do not have broad patent protection, our competitors may then sell the same drug to treat the same condition sooner than if we had obtained orphan drug exclusivity and our revenue will be reduced.

Even though we have orphan drug designation for lonafamib in the United States and Europe, we may not be the first to obtain marketing approval for any particular orphan indication due to the uncertainties associated with developing pharmaceutical products. Further, even if we obtain orphan drug exclusivity for a product, that exclusivity may not effectively protect the product from competition because different drugs with different active moieties can be approved for the same condition. Even after an orphan drug is approved, the FDA or EMA can subsequently approve the same drug with the same active moiety for the same condition if the FDA or EMA concludes that the later drug is safer, more effective, or makes a major contribution to patient care. Orphan drug designation neither shortens the development time or regulatory review time of a product candidate nor gives the product candidate any advantage in the regulatory review or approval process.

We have sought to protect our proprietary position by filing patent applications in the United States and abroad related to our product candidates that are important to our business. This process is expensive and time consuming, and we may not be able to file and prosecute all necessary or desirable patent applications at a reasonable cost or in a timely manner. It is also possible that we will fail to identify patentable aspects of our research and development output before it is too late to obtain patent protection.

The patent position of biotechnology and pharmaceutical companies generally is highly uncertain and involves complex legal and factual questions for which legal principles remain unsolved. The patent applications that we own or in-licenses may fail to result in issued patents with claims that cover our product candidates in the United States or in other foreign countries. There is no assurance that all potentially relevant prior art relating to our patents and patent applications has been found, which can invalidate a patent or prevent a patent from issuing from a pending patent application. Even if patents do successfully issue, and even if such patents cover our

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product candidates, third parties may challenge their validity, enforceability, or scope, which may result in such patents being narrowed, found unenforceable or invalidated. Furthermore, even if they are unchallenged, our patents and patent applications may not adequately protect our intellectual property, provide exclusivity for our product candidates, or prevent others from designing around our claims. Any of these outcomes could impair our ability to prevent competition from third parties, which may have an adverse impact on our business.

We, independently or together with our licensors, have filed several patent applications covering various aspects of our product candidates. We cannot offer any assurances about which, if any, patents will issue, the breadth of any such patent or whether any issued patents will be found invalid and unenforceable or will be threatened by third parties. Any successful opposition to these patents or any other patents owned by or licensed to us after patent issuance could deprive us of rights necessary for the successful commercialization of any product candidates that we may develop. Further, if we encounter delays in regulatory approvals, the period of time during which we could market a product candidate under patent protection could be reduced.

Although we have licensed a number of patents covering methods of use and certain compositions of matter, we do not have complete patent protection for our product candidates. For example, the patent coverage for lonafamib expires before the anticipated launch date. Likewise, most of the patents covering products that we have licensed in from Stanford have limited protection outside of the United States. Therefore, a competitor could develop the same or similar product that may compete with our product candidate.

Certain of our product licenses are limited to specified indications or therapeutic areas which may result in the same compound being developed and commercialized by a third party whom we have no control over or rights against. This may result in safety data, pricing or off label uses from that third party's product that may negatively affect the development and commercialization of our product candidates. For example, Kura has an exclusive license to tipifamib for use in cancer indications while we have a license for anti-viral indications. As a result of Kura's right to use the same compound in a different indication, it is possible that development and sales may impact our product development and commercialization efforts. If we cannot obtain and maintain effective protection of exclusivity from our regulatory efforts and intellectual property rights, including patent protection, for our product candidates, we may not be able to compete effectively and our business and results of operations would be harmed.

We may not have sufficient patent term protections for our products to effectively protect our business.

Patents have a limited term. In the United States, the statutory expiration of a patent is generally 20 years after it is filed. Although various extensions may be available, the life of a patent, and the protection it affords, is limited. Even if patents covering our product candidates are obtained, once the patent life has expired for a product, we may be open to competition from generic medications. In addition, upon issuance in the United States any patent term can be adjusted based on certain delays caused by the applicant(s) or the United States Patent and Trademark Office, or USPTO. For example, a patent term can be reduced based on certain delays caused by the patent applicant during patent prosecution.

Patent term extensions under the Hatch-Waxman Act in the United States and under supplementary protection certificates in Europe may be available to extend the patent or data exclusivity terms of products. With respect to ubenimex, lonafamib and exendin (9-39), a substantial portion of the potential commercial opportunity will likely rely on patent term extensions, and we cannot provide any assurances that any such patent term extensions will be obtained and, if so, for how long. As a result, we may not be able to maintain exclusivity for our products for an extended period after regulatory approval, which would negatively impact our business and results of operations. If we do not have sufficient patent terms or regulatory exclusivity to protect our products, our business and results of operations will be adversely affected.

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Patent laws and rule changes could increase the uncertainties and costs surrounding the prosecution of our patent applications and the enforcement or defense of our issued patents.

Changes in either the patent laws or interpretation of the patent laws in the United States and other countries may diminish the value of our patents or narrow the scope of our patent protection. The laws of foreign countries may not protect our rights to the same extent as the laws of the United States. Publications of discoveries in the scientific literature often lag behind the actual discoveries, and patent applications in the United States and other jurisdictions are typically not published until 18 months after filing, or in some cases not at all. We therefore cannot be certain that it or our licensors were the first to make the invention claimed in our owned and licensed patents or pending applications, or that we or our licensor were the first to file for patent protection of such inventions. Assuming the other requirements for patentability are met, in the United States prior to March 15, 2013, the first to make the claimed invention is entitled to the patent, while outside the United States, the first to file a patent application is entitled to the patent. After March 15, 2013, under the Leahy-Smith America Invents Act, or the Leahy-Smith Act, enacted on September 16, 2011, the United States has moved to a first to file system. The Leahy-Smith Act also includes a number of significant changes that affect the way patent applications will be prosecuted and may also affect patent litigation. The effects of these changes are currently unclear as the USPTO must still implement various regulations, the courts have yet to address any of these provisions and the applicability of the act and new regulations on specific patents discussed herein have not been determined and would need to be reviewed. In general, the Leahy-Smith Act and its implementation could increase the uncertainties and costs surrounding the prosecution of our patent applications and the enforcement or defense of our issued patents, all of which could have a material adverse effect on our business and financial condition.

If we are unable to maintain effective proprietary rights for our product candidates or any future product candidates, we may not be able to compete effectively in our markets.

In addition to the protection afforded by patents, we rely on trade secret protection and confidentiality agreements to protect proprietary know-how that is not patentable or that we elect not to patent, processes for which patents are difficult to enforce and any other elements of our product candidate discovery and development processes that involve proprietary know-how, information or technology that is not covered by patents. However, trade secrets can be difficult to protect. We seek to protect our proprietary technology and processes, in part, by entering into confidentiality agreements with our employees, consultants, scientific advisors, and contractors. We also seek to preserve the integrity and confidentiality of our data and trade secrets by maintaining physical security of our premises and physical and electronic security of our information technology systems. While we have confidence in these individuals, organizations and systems, agreements or security measures may be breached, and we may not have adequate remedies for any breach. In addition, our trade secrets may otherwise become known or be independently discovered by competitors.

Although we expect all of our employees and consultants to assign their inventions to us, and all of our employees, consultants, advisors, and any third parties who have access to our proprietary know-how, information, or technology to enter into confidentiality agreements, we cannot provide any assurances that all such agreements have been duly executed or that our trade secrets and other confidential proprietary information will not be disclosed or that competitors will not otherwise gain access to our trade secrets or independently develop substantially equivalent information and techniques. Misappropriation or unauthorized disclosure of our trade secrets could impair our competitive position and may have a material adverse effect on our business. Additionally, if the steps taken to maintain our trade secrets are deemed inadequate, we may have insufficient recourse against third parties for misappropriating the trade secret.

Third-party claims of intellectual property infringement may prevent or delay our development and commercialization efforts.

Our commercial success depends in part on our avoiding infringement of the patents and proprietary rights of third parties. There have been many lawsuits and other proceedings involving patent and other intellectual

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property rights in the biotechnology and pharmaceutical industries, including patent infringement lawsuits, interferences, oppositions, and reexamination proceedings before the USPTO and corresponding foreign patent offices. Numerous U.S. and foreign issued patents and pending patent applications, which are owned by third parties, exist in the fields in which we are developing product candidates. As the biotechnology and pharmaceutical industries expand and more patents are issued, the risk increases that our product candidates may be subject to claims of infringement of the patent rights of third parties.

Third parties may assert that we are employing their proprietary technology without authorization. There may be third-party patents or patent applications with claims to materials, formulations, methods of manufacture, or methods for treatment related to the use or manufacture of our product candidates. We have conducted freedom to operate analyses with respect to only certain of our product candidates, and therefore we do not know whether there are any third-party patents that would impair our ability to commercialize these product candidates. We also cannot guarantee that any of our analyses are complete and thorough, nor can we be sure that we have identified each and every patent and pending application in the United States and abroad that is relevant or necessary to the commercialization of our product candidates. Because patent applications can take many years to issue, there may be currently pending patent applications that may later result in issued patents that our product candidates may infringe.

In addition, third parties may obtain patents in the future and claim that use of our technologies infringes upon these patents. If any third-party patents were held by a court of competent jurisdiction to cover aspects of our formulations, the manufacturing process of any of our product candidates, methods of use, any molecules formed during the manufacturing process or any final product itself, the holders of any such patents may be able to block our ability to commercialize such product candidate unless we obtained a license under the applicable patents, or until such patents expire or are finally determined to be invalid or unenforceable. Such a license may not be available on commercially reasonable terms, or at all.

Parties making claims against us may obtain injunctive or other equitable relief, which could effectively block our ability to further develop and commercialize one or more of our product candidates. Defense of these claims, regardless of their merit, would involve substantial litigation expense and would be a substantial diversion of employee resources from our business. In the event of a successful claim of infringement against us, we may have to pay substantial damages, including treble damages and attorneys' fees for willful infringement, pay royalties, redesign our infringing products or obtain one or more licenses from third parties, which may be impossible or require substantial time and monetary expenditure.

We may not be successful in meeting our diligence obligations under our existing license agreements necessary to maintain our product candidate licenses in effect. In addition, if required in order to commercialize our product candidates, we may be unsuccessful in obtaining or maintaining necessary rights to our product candidates through acquisitions and in-licenses.

We currently have rights to the intellectual property, through licenses from third parties and under patents that we do not own, to develop and commercialize our product candidates. Because our programs may require the use of proprietary rights held by third parties, the growth of our business will likely depend in part on our ability to maintain in effect these proprietary rights. For example, we have certain specified diligence obligations under our Stanford license agreements for our ubenimex and lonafamib product candidates. We may not be able to achieve the required diligence milestones in a timely manner, which may result in a right of termination by Stanford, and we may be unable to successfully negotiate an extension or waiver of those termination rights. Any termination of license agreements with third parties with respect to our product candidates would be expected to negatively impact our business prospects.

We may be unable to acquire or in-license any compositions, methods of use, processes, or other third-party intellectual property rights from third parties that we identify as necessary for our product candidates. The licensing and acquisition of third-party intellectual property rights is a competitive area, and a number of more

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established companies are also pursuing strategies to license or acquire third-party intellectual property rights that we may consider attractive. These established companies may have a competitive advantage over us due to their size, cash resources, and greater clinical development and commercialization capabilities. In addition, companies that perceive us to be a competitor may be unwilling to assign or license rights to us. Even if we are able to license or acquire third-party intellectual property rights that are necessary for our product candidates, there can be no assurance that they will be available on favorable terms.

We collaborate with U.S. and foreign academic institutions to identify product candidates, accelerate our research and conduct development. Typically, these institutions have provided us with an option to negotiate an exclusive license to any of the institution's rights in the patents or other intellectual property resulting from the collaboration. Regardless of such option, we may be unable to negotiate a license within the specified timeframe or under terms that are acceptable to us. If we are unable to do so, the institution may offer the intellectual property rights to other parties, potentially blocking our ability to pursue a program of interest to us.

If we are unable to successfully obtain and maintain rights to required third-party intellectual property, we may have to abandon development of that product candidate or pay additional amounts to the third party, and our business and financial condition could suffer.

Our product candidates may be subject to generic competition.

Under the Hatch-Waxman Act, a pharmaceutical manufacturer may file an abbreviated new drug application, or ANDA, seeking approval of a generic copy of an approved innovator product. Under the Hatch-Waxman Act, a manufacturer may also submit an NDA under section 505(b)(2) that references the FDA's finding of safety and effectiveness of a previously approved drug. A 505(b)(2) NDA product may be for a new or improved version of the original innovator product. Innovative small molecule drugs may be eligible for certain periods of regulatory exclusivity (e.g., five years for new chemical entities, three years for changes to an approved drug requiring a new clinical study, seven years for orphan drugs), which preclude FDA approval (or in some circumstances, FDA filing and review of) an ANDA or 505(b)(2) NDA relying on the FDA's finding of safety and effectiveness for the innovative drug. In addition to the benefits of regulatory exclusivity, an innovator NDA holder may have patents claiming the active ingredient, product formulation or an approved use of the drug, which would be listed with the product in the FDA publication, "Approved Drug Products with Therapeutic Equivalence Evaluations," known as the "Orange Book." If there are patents listed in the Orange Book, a generic applicant that seeks to market its product before expiration of the patents must include in the ANDA or 505(b)(2) what is known as a "Paragraph IV certification," challenging the validity or enforceability of, or claiming non-infringement of, the listed patent or patents. Notice of the certification must be given to the innovator, too, and if within 45 days of receiving notice the innovator sues to protect its patents, approval of the ANDA is stayed for 30 months, or as lengthened or shortened by the court.

If there are patents listed for our product candidates in the Orange Book, ANDAs and 505(b)(2) NDAs with respect to those product candidates would be required to include a certification as to each listed patent indicating whether the ANDA applicant does or does not intend to challenge the patent. We cannot predict whether any patents issuing from our pending patent applications will be eligible for listing in the Orange Book, how any generic competitor would address such patents, whether we would sue on any such patents, or the outcome of any such suit.

We may not be successful in securing or maintaining proprietary patent protection for products and technologies we develop or license. Moreover, if any patents that are granted and listed in the Orange Book are successfully challenged by way of a Paragraph IV certification and subsequent litigation, the affected product could more immediately face generic competition and its sales would likely decline materially. Should sales decline, we may have to write off a portion or all of the intangible assets associated with the affected product and our results of operations and cash flows could be materially and adversely affected.

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The patent protection and patent prosecution for some of our product candidates is dependent on third parties.

While we normally seek and gain the right to fully prosecute the patents relating to our product candidates, there may be times when patents relating to our product candidates are controlled by our licensors. This is the case with our agreements with Stanford and Nippon Kayaku, each of whom is primarily responsible for the prosecution of patents and patent applications licensed to us under the applicable collaboration agreements. If they or any of our future licensors fail to appropriately and broadly prosecute and maintain patent protection for patents covering any of our product candidates, our ability to develop and commercialize those product candidates may be adversely affected and we may not be able to prevent competitors from making, using, importing, and selling competing products. In addition, even where we now have the right to control patent prosecution of patents and patent applications we have licensed from third parties, we may still be adversely affected or prejudiced by actions or inactions of our licensors in effect from actions prior to us assuming control over patent prosecution.

If we fail to comply with obligations in the agreements under which we license intellectual property and other rights from third parties or otherwise experience disruptions to our business relationships with our licensors, we could lose license rights that are important to our business.

We are a party to a number of intellectual property license and supply agreements that are important to our business and expects to enter into additional license agreements in the future. Our existing agreements impose, and we expect that future license agreements will impose, various diligence, milestone payment, royalty, purchasing, and other obligations on it. If we fail to comply with our obligations under these agreements, or we are subject to a bankruptcy, our agreements may be subject to termination by the licensor, in which event we would not be able to develop, manufacture, or market products covered by the license or subject to supply commitments.

Although we are not currently involved in any intellectual property litigation, we may be involved in lawsuits to protect or enforce our patents or the patents of our licensors, which could be expensive, time consuming, and unsuccessful.

Competitors may infringe our patents or the patents of our licensors. Although we are not currently involved in any intellectual property litigation, if we or one of our licensing partners were to initiate legal proceedings against a third party to enforce a patent covering one of our product candidates, the defendant could counterclaim that the patent covering our product candidate is invalid and/or unenforceable. In patent litigation in the United States, defendant counterclaims alleging invalidity and/or unenforceability are commonplace. Grounds for a validity challenge could be an alleged failure to meet any of several statutory requirements, including lack of novelty, obviousness, or non-enablement. Grounds for an unenforceability assertion could be an allegation that someone connected with prosecution of the patent withheld relevant information from the USPTO, or made a misleading statement, during prosecution. The outcome following legal assertions of invalidity and unenforceability is unpredictable.

Interference proceedings provoked by third parties or brought by us or declared by the USPTO may be necessary to determine the priority of inventions with respect to our patents or patent applications or those of our licensors. An unfavorable outcome could require us to cease using the related technology or to attempt to license rights to it from the prevailing party. Our business could be harmed if the prevailing party does not offer us a license on commercially reasonable terms. Our defense of litigation or interference proceedings may fail and, even if successful, may result in substantial costs and distract our management and other employees. In addition, the uncertainties associated with litigation could have a material adverse effect on our ability to raise the funds necessary to continue our clinical trials, continue our research programs, license necessary technology from third parties, or enter into development partnerships that would help us bring our product candidates to market.

Furthermore, because of the substantial amount of discovery required in connection with intellectual property litigation, there is a risk that some of our confidential information could be compromised by disclosure

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during this type of litigation. There could also be public announcements of the results of hearings, motions, or other interim proceedings or developments. If securities analysts or investors perceive these results to be negative, it could have a material adverse effect on the price of our common stock.

We may be subject to claims that our employees, consultants, or independent contractors have wrongfully used or disclosed confidential information of third parties or that our employees have wrongfully used or disclosed alleged trade secrets of their former employers.

We employ individuals who were previously employed at universities or other biotechnology or pharmaceutical companies, including our competitors or potential competitors. Although we have written agreements and make every effort to ensure that our employees, consultants, and independent contractors do not use the proprietary information or intellectual property rights of others in their work for us, and we are not currently subject to any claims that our employees, consultants, or independent contractors have wrongfully used or disclosed confidential information of third parties, we may in the future be subject to such claims. Litigation may be necessary to defend against these claims. If we fail in defending any such claims, in addition to paying monetary damages, we may lose valuable intellectual property rights or personnel, which could adversely impact our business. Even if we are successful in defending against such claims, litigation could result in substantial costs and be a distraction to management and other employees.

We may not be able to protect our intellectual property rights throughout the world.

Filing, prosecuting, and defending patents on product candidates in all countries throughout the world would be prohibitively expensive, and our intellectual property rights in some countries outside the United States can be less extensive than those in the United States. In addition, the laws of some foreign countries do not protect intellectual property rights to the same extent as federal and state laws in the United States. Competitors may use our technologies in jurisdictions where we have not obtained patent protection to develop their own products and may also export infringing products to territories where we have patent protection, but enforcement is not as strong as that in the United States. These products may compete with our products and our patents or other intellectual property rights may not be effective or sufficient to prevent them from competing.

Many companies have encountered significant problems in protecting and defending intellectual property rights in foreign jurisdictions. The legal systems of certain countries, particularly certain developing countries, do not favor the enforcement of patents, trade secrets, and other intellectual property protection, particularly those relating to biotechnology products, which could make it difficult for us to stop the infringement of our patents or marketing of competing products in violation of our proprietary rights generally. Proceedings to enforce our patent rights in foreign jurisdictions, whether or not successful, could result in substantial costs and divert our efforts and attention from other aspects of our business, could put our patents at risk of being invalidated or interpreted narrowly and our patent applications at risk of not issuing and could provoke third parties to assert claims against us. We may not prevail in any lawsuits that we initiate and the damages or other remedies awarded, if any, may not be commercially meaningful. Accordingly, our efforts to enforce our intellectual property rights around the world may be inadequate to obtain a significant commercial advantage from the intellectual property that we develop or license.

Risks Related to our Business Operations

Prior to the merger, Private Eiger identified a material weakness in its internal control over financial reporting and our current management team may fail to maintain an effective system of internal control, which may result in material misstatements of our financial statements or cause us to fail to meet our periodic reporting obligations.

Prior to the merger, Private Eiger was a private company and had limited accounting and financial reporting personnel and other resources with which to address its internal controls and procedures. In connection with the

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audit of Private Eiger's consolidated financial statements for the years ended December 31, 2014 and 2013, Private Eiger and its independent auditors identified a material weakness in Private Eiger's internal control over financial reporting. A material weakness is a deficiency, or a combination of deficiencies, in internal control over financial reporting such that there is a reasonable possibility that a material misstatement of the subject company's annual or interim financial statements will not be prevented or detected on a timely basis. Private Eiger's lack of sufficient accounting personnel resulted in the identification of a material weakness in Private Eiger's internal control over financial reporting. Specifically, the material weakness that was identified related to a lack of sufficient accounting resources and personnel that had limited Private Eiger's ability to adequately segregate duties, establish defined accounting policies and procedures and perform timely reviews of account reconciliations. Following the merger, no former employees of Celladon remain employed by us. Consequently, we will need to build out and maintain our own public company financial reporting functions and other resources.

To address the deficiency in our team's accounting processes, we plan to hire additional accounting personnel, establish and document accounting policies and procedures, and implement management review controls. While we intend to implement a plan to remediate this deficiency, we cannot predict the success of such plan or the outcome of our assessment of these plans at this time. We can give no assurance that this implementation will remediate this deficiency in internal control or that material weaknesses or significant deficiencies in our internal control over financial reporting will not be identified in the future. Our failure to implement and maintain effective internal control over financial reporting could result in errors in our financial statements that could result in a restatement of our financial statements or cause us to fail to meet our reporting obligations. In addition, any testing by us conducted in connection with Section 404 of the Sarbanes-Oxley Act, or the subsequent testing by our independent registered public accounting firm, may reveal deficiencies in our internal controls over financial reporting that are deemed to be material weaknesses or that may require prospective or retroactive changes to our consolidated financial statements or identify other areas for further attention or improvement. Inferior internal controls could also cause investors to lose confidence in our reported financial information, which could have a negative effect on the trading price of our common stock.

Our future success depends in part on our ability to retain our President and Chief Executive Officer and to attract, retain, and motivate other qualified personnel.

We are highly dependent on David Cory, our President and Chief Executive Officer, the loss of whose services may adversely impact the achievement of our objectives. Mr. Cory could leave our employment at any time, as he is an "at will" employee. Recruiting and retaining other qualified employees, consultants, and advisors for our business, including scientific and technical personnel, will also be critical to our success. There is currently a shortage of highly qualified personnel in our industry, which is likely to continue. As a result, competition for personnel is intense and the turnover rate can be high. We may not be able to attract and retain personnel on acceptable terms given the competition among numerous pharmaceutical and biotechnology companies for individuals with similar skill sets. In addition, failure to succeed in development and commercialization of our product candidates may make it more challenging to recruit and retain qualified personnel. The inability to recruit and retain qualified personnel, or the loss of the services of Mr. Cory may impede the progress of our research, development, and commercialization objectives and would negatively impact our ability to succeed in our in-licensing strategy.

We will need to expand our organization and we may experience difficulties in managing this growth, which could disrupt our operations.

As of March 23, 2016, we had 10 full-time employees. As our development and commercialization plans and strategies develop, we expect to need additional managerial, operational, sales, marketing, financial, legal, and other resources. Our management may need to divert a disproportionate amount of its attention away from our day-to-day activities and devote a substantial amount of time to managing these growth activities. We may not be able to effectively manage the expansion of our operations, which may result in weaknesses in our

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infrastructure, operational mistakes, loss of business opportunities, loss of employees, and reduced productivity among remaining employees. Our expected growth could require significant capital expenditures and may divert financial resources from other projects, such as the development of additional product candidates. If our management is unable to effectively manage our growth, our expenses may increase more than expected, our ability to generate and/or grow revenue could be reduced and we may not be able to implement our business strategy. Our future financial performance and our ability to commercialize product candidates and compete effectively will depend, in part, on our ability to effectively manage any future growth.

Failure in our information technology and storage systems could significantly disrupt the operation of our business.

Our ability to execute our business plan and maintain operations depends on the continued and uninterrupted performance of our information technology, or IT, systems. IT systems are vulnerable to risks and damages from a variety of sources, including telecommunications or network failures, malicious human acts and natural disasters. Moreover, despite network security and back-up measures, some of our and our vendors' servers are potentially vulnerable to physical or electronic break-ins, computer viruses and similar disruptive problems. Despite precautionary measures to prevent unanticipated problems that could affect our IT systems, sustained or repeated system failures that interrupt our ability to generate and maintain data could adversely affect our ability to operate our business.

We may not be successful in any efforts to identify, license, discover, develop, or commercialize additional product candidates.

Although a substantial amount of our effort will focus on the continued clinical testing, potential approval, and commercialization of our existing product candidates, the success of our business is also expected to depend in part upon our ability to identify, license, discover, develop, or commercialize additional product candidates. Research programs to identify new product candidates require substantial technical, financial, and human resources. We may focus our efforts and resources on potential programs or product candidates that ultimately prove to be unsuccessful. Our research programs or licensing efforts may fail to yield additional product candidates for clinical development and commercialization for a number of reasons, including but not limited to the following:

- our research or business development methodology or search criteria and process may be unsuccessful in identifying potential product candidates;
- we may not be able or willing to assemble sufficient resources to acquire or discover additional product candidates;
- our product candidates may not succeed in preclinical or clinical testing;
- our potential product candidates may be shown to have harmful side effects or may have other characteristics that may make the products unmarketable or unlikely to receive marketing approval;
- competitors may develop alternatives that render our product candidates obsolete or less attractive;
- product candidates we develop may be covered by third parties' patents or other exclusive rights;
- the market for a product candidate may change during our program so that such a product may become unreasonable to continue to develop;
- a product candidate may not be capable of being produced in commercial quantities at an acceptable cost, or at all; and
- a product candidate may not be accepted as safe and effective by patients, the medical community, or third-party payors.

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If any of these events occur, we may be forced to abandon our development efforts for a program or programs, or we may not be able to identify, license, discover, develop, or commercialize additional product candidates, which would have a material adverse effect on our business and could potentially cause us to cease operations.

Healthcare legislative reform measures may have a material adverse effect on our business and results of operations.

In the United States, there have been and continue to be a number of legislative initiatives to contain healthcare costs. For example, in March 2010, the Patient Protection and Affordable Care Act, as amended by the Health Care and Education Reconciliation Act, or the Health Care Reform Law, was passed, which substantially changes the way health care is financed by both governmental and private insurers, and significantly impacts the U.S. pharmaceutical industry. The Health Care Reform Law, among other things, addresses a new methodology by which rebates owed by manufacturers under the Medicaid Drug Rebate Program are calculated for drugs that are inhaled, infused, instilled, implanted, or injected, increases the minimum Medicaid rebates owed by manufacturers under the Medicaid Drug Rebate Program and extends the rebate program to individuals enrolled in Medicaid managed care organizations, establishes annual fees and taxes on manufacturers of certain branded prescription drugs, and promotes a new Medicare Part D coverage gap discount program.

In addition, other legislative changes have been proposed and adopted in the United States since the Health Care Reform Law was enacted and we expect that additional state and federal healthcare reform measures will be adopted in the future, any of which could limit the amounts that federal and state governments will pay for healthcare products and services, which could result in reduced demand or lower pricing for our product candidates, or additional pricing pressures.

We may be subject, directly or indirectly, to federal and state healthcare fraud and abuse laws, false claims laws, and health information privacy and security laws. If we are unable to comply, or has not fully complied, with such laws, it could face substantial penalties.

If we obtain FDA approval for any of our product candidates and begins commercializing those products in the United States, our operations may be subject to various federal and state fraud and abuse laws, including, without limitation, the federal Anti-Kickback Statute, the federal False Claims Act, and physician sunshine laws and regulations. These laws may impact, among other things, our proposed sales, marketing, and education programs. In addition, we may be subject to patient privacy regulation by both the federal government and the states in which we conduct our business. The laws that may affect our ability to operate include:

- the federal Anti-Kickback Statute, which prohibits, among other things, persons from knowingly and willfully soliciting, receiving, offering or paying remuneration, directly or indirectly, to induce, or in return for, the purchase or recommendation of an item or service reimbursable under a federal healthcare program, such as the Medicare and Medicaid programs;
- federal civil and criminal false claims laws and civil monetary penalty laws, which prohibit, among other things, individuals or entities from knowingly presenting, or causing to be presented, claims for payment from Medicare, Medicaid, or other third-party payors that are false or fraudulent;
- the federal Health Insurance Portability and Accountability Act of 1996, or HIPAA, which created new federal criminal statutes that prohibit executing a scheme to defraud any healthcare benefit program and making false statements relating to healthcare matters;
- HIPAA, as amended by the Health Information Technology and Clinical Health Act, or HITECH, and our implementing regulations, which imposes certain requirements relating to the privacy, security, and transmission of individually identifiable health information;
- the federal physician sunshine requirements under the Health Care Reform Laws requires manufacturers of drugs, devices, biologics, and medical supplies to report annually to the U.S.

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Department of Health and Human Services information related to payments and other transfers of value to physicians, other healthcare providers, and teaching hospitals, and ownership and investment interests held by physicians and other healthcare providers and their immediate family members and applicable group purchasing organizations; and

- state law equivalents of each of the above federal laws, such as anti-kickback and false claims laws that may apply to items or services reimbursed by any third-party payor, including commercial insurers, state laws that require pharmaceutical companies to comply with the pharmaceutical industry's voluntary compliance guidelines and the relevant compliance guidance promulgated by the federal government, or otherwise restrict payments that may be made to healthcare providers and other potential referral sources; state laws that require drug manufacturers to report information related to payments and other transfers of value to physicians and other healthcare providers or marketing expenditures, and state laws governing the privacy and security of health information in certain circumstances, many of which differ from each other in significant ways and may not have the same effect, thus complicating compliance efforts.

Because of the breadth of these laws and the narrowness of the statutory exceptions and safe harbors available, it is possible that some of our business activities could be subject to challenge under one or more of such laws. In addition, recent health care reform legislation has strengthened these laws. For example, the Health Care Reform Law, among other things, amends the intent requirement of the federal anti-kickback and criminal healthcare fraud statutes. A person or entity no longer needs to have actual knowledge of this statute or specific intent to violate it. Moreover, the Health Care Reform Law provides that the government may assert that a claim including items or services resulting from a violation of the federal anti-kickback statute constitutes a false or fraudulent claim for purposes of the False Claims Act.

If our operations are found to be in violation of any of the laws described above or any other governmental regulations that apply, we may be subject to penalties, including civil and criminal penalties, damages, fines, exclusion from participation in government health care programs, such as Medicare and Medicaid, imprisonment, and the curtailment or restructuring of our operations, any of which could adversely affect our ability to operate our business and our results of operations.

Our employees, principal investigators, consultants and commercial partners may engage in misconduct or other improper activities, including non-compliance with regulatory standards and requirements and insider trading.

We are exposed to the risk of fraudulent conduct or other illegal activity by our employees, independent contractors, principal investigators, consultants, commercial partners and vendors. Misconduct by these parties could include intentional, reckless and/or negligent conduct that fails to: comply with the regulations of the FDA and non-U.S. regulators, provide accurate information to the FDA and non-U.S. regulators, comply with healthcare fraud and abuse laws in the United States and abroad, report financial information or data accurately or disclose unauthorized activities to us. In particular, promotion, sales, marketing and certain business arrangements in the healthcare industry are subject to extensive laws intended to prevent fraud, misconduct, kickbacks, self-dealing and other abusive practices. These laws may restrict or prohibit a wide range of pricing, discounting, marketing and promotion, sales commission, customer incentive programs and other business arrangements. Such misconduct could also involve the improper use of information obtained in the course of patient recruitment or clinical trials, which could result in regulatory sanctions and cause serious harm to our reputation. We have adopted a code of business conduct and ethics applicable to all of our employees, but it is not always possible to identify and deter employee misconduct, and the precautions we take to detect and prevent this activity may not be effective in controlling unknown or unmanaged risks or losses or in protecting us from governmental investigations or other actions or lawsuits stemming from a failure to comply with these laws or regulations. If any such actions are instituted against us, and we are not successful in defending ourselves or asserting our rights, those actions could have a significant impact on our business, including the imposition of significant fines or other sanctions.

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We face potential product liability, and, if successful claims are brought against us, we may incur substantial liability and costs. If the use or misuse of our product candidates harms patients, or is perceived to harm patients even when such harm is unrelated to our product candidates, our regulatory approvals could be revoked or otherwise negatively impacted and we could be subject to costly and damaging product liability claims.

The use or misuse of our product candidates in clinical trials and the sale of any products for which we obtain marketing approval exposes us to the risk of product liability claims. Product liability claims might be brought against us by consumers, healthcare providers, pharmaceutical companies or others selling or otherwise coming into contact with our products. There is a risk that our product candidates may induce adverse events. If we cannot successfully defend against product liability claims, we could incur substantial liability and costs. In addition, regardless of merit or eventual outcome, product liability claims may result in:

- impairment of our business reputation;
- initiation of investigations by regulators;
- withdrawal of clinical trial participants;
- costs due to related litigation;
- distraction of management’s attention from our primary business;
- substantial monetary awards to patients or other claimants;
- the inability to commercialize our product candidates;
- product recalls, withdrawals or labeling, marketing or promotional restrictions; and
- decreased demand for our product candidates, if approved for commercial sale.

We carry product liability insurance of \$5 million per occurrence and a \$5 million aggregate limit. We believe our product liability insurance coverage is appropriate in light of our current and Celladon’s historical clinical programs; however, we may not be able to maintain insurance coverage at a reasonable cost or in sufficient amounts to protect us against losses due to liability. If and when we obtain marketing approval for product candidates, we intend to expand our insurance coverage to include the sale of commercial products; however, we may be unable to obtain product liability insurance on commercially reasonable terms or in adequate amounts. On occasion, large judgments have been awarded in class action lawsuits based on drugs or medical treatments that had unanticipated adverse effects. A successful product liability claim or series of claims brought against us could cause our stock price to decline and, if judgments exceed our insurance coverage, could adversely affect our results of operations and business.

Patients with the diseases targeted by our product candidates are often already in severe and advanced stages of disease and have both known and unknown significant pre-existing and potentially life-threatening health risks. During the course of treatment, patients may suffer adverse events, including death, for reasons that may or may not be related to our product candidates. Such events could subject us to costly litigation, require us to pay substantial amounts of money to injured patients, delay, negatively impact or end our opportunity to receive or maintain regulatory approval to market our products, or require us to suspend or abandon our commercialization efforts. Even in a circumstance in which we do not believe that an adverse event is related to our products, the investigation into the circumstance may be time-consuming or inconclusive. These investigations may interrupt our sales efforts, delay our regulatory approval process in other countries, or impact and limit the type of regulatory approvals our product candidates receive or maintain. As a result of these factors, a product liability claim, even if successfully defended, could have a material adverse effect on our business, financial condition or results of operations.

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If we fail to comply with environmental, health and safety laws and regulations, we could become subject to fines or penalties or incur costs that could have a material adverse effect on the success of our business.

Our research and development activities and our third-party manufacturers' and suppliers' activities involve the controlled storage, use, and disposal of hazardous materials, including the components of our product candidates and other hazardous compounds. We and our manufacturers and suppliers are subject to laws and regulations governing the use, manufacture, storage, handling, and disposal of these hazardous materials. In some cases, these hazardous materials and various wastes resulting from their use are stored at our and our manufacturers' facilities pending their use and disposal. We cannot eliminate the risk of contamination, which could cause an interruption of our commercialization efforts, research and development efforts and business operations, environmental damage resulting in costly clean-up and liabilities under applicable laws and regulations governing the use, storage, handling, and disposal of these materials and specified waste products. Although we believe that the safety procedures utilized by itus and our third-party manufacturers for handling and disposing of these materials generally comply with the standards prescribed by these laws and regulations, we cannot guarantee that this is the case or eliminate the risk of accidental contamination or injury from these materials. In such an event, we may be held liable for any resulting damages and such liability could exceed our resources and state or federal or other applicable authorities may curtail our use of certain materials and/or interrupt our business operations. Furthermore, environmental laws and regulations are complex, change frequently, and have tended to become more stringent. We cannot predict the impact of such changes and cannot be certain of our future compliance. We do not currently carry biological or hazardous waste insurance coverage.

We or the third parties upon whom we depend may be adversely affected by earthquakes or other natural disasters and our business continuity and disaster recovery plans may not adequately protect us from a serious disaster.

Our corporate headquarters are located in the San Francisco Bay Area which has in the past experienced severe earthquakes and other natural disasters. We do not carry earthquake insurance. Earthquakes or other natural disasters could severely disrupt our operations or those of our collaborators, and have a material adverse effect on our business, results of operations, financial condition, and prospects. If a natural disaster, terrorist attack, power outage, or other event occurred that prevented us from using or damaged critical elements of our business and operations (such as the manufacturing facilities of our third-party contract manufacturers) our business may be disrupted for a substantial period of time. We have limited or no disaster recovery and business continuity plans in place currently and our business would be impaired in the event of a serious disaster or similar event. We may incur substantial expenses to develop and implement any disaster recovery and business continuity plans, which could have a material adverse effect on our business.

Risks Related to Celladon's Historical Business Operations

We are the subject of securities class action lawsuits that were filed against Celladon in 2015, and additional securities litigation may be brought against us in the future.

In July 2015, following Celladon's announcements of the negative CUPID 2 data and the suspension of further research and development activities and the subsequent declines of the price of its common stock, three putative class actions were filed in the U.S. District Court for the Southern District of California against Celladon and certain of its current and former officers. The complaints generally allege that the defendants violated Sections 10(b) and 20(a) of the Securities Exchange Act of 1934, as amended, or the Exchange Act, by making materially false and misleading statements regarding the clinical trial program for MYDICAR, thereby artificially inflating the price of Celladon's common stock. The complaints seek unspecified monetary damages and other relief, including attorneys' fees. On September 1, 2015, six stockholders (or groups of stockholders) filed motions to consolidate the three putative securities class actions and to appoint lead plaintiffs (the "Motions to Consolidate"). A hearing on the Motions to Consolidate was held on December 3, 2015. On December 9, 2015, the Court consolidated the three putative securities class actions and appointed a lead plaintiff to represent the putative class. The lead plaintiff filed a consolidated amended complaint on February 29, 2016. It is possible

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that additional suits will be filed, or allegations made by stockholders, with respect to these same or other matters and also naming us and/or our former officers and directors as defendants. We believe that we have meritorious defenses and intend to defend these lawsuits vigorously. Due to the early stage of these proceedings, we are not able to predict or reasonably estimate the ultimate outcome or possible losses relating to these claims. While we and Celladon's former directors' and officers' have a separate liability insurance policy dedicated to any claims that may arise from pre-merger events, there is no assurance that the coverage will be sufficient. In addition, any such litigation could result in substantial costs and a diversion of our management's attention and resources, which could harm our business.

Risks Related to Ownership of our Common Stock

The market price of our common stock may be highly volatile, and you may not be able to resell some or all of your shares at a desired market price.

The market price of our common stock has been and is likely to continue to be volatile. Our stock price could be subject to wide fluctuations in response to a variety of factors, including the following:

- results or delays in preclinical studies or clinical trials;
- our decision to initiate a clinical trial, not to initiate a clinical trial or to terminate an existing clinical trial;
- unanticipated serious safety concerns related to the use of any of our product candidates;
- reports of adverse events in other gene therapy products or clinical trials of such products;
- inability to obtain additional funding;
- any delay in filing an IND or NDA for any of our product candidates and any adverse development or perceived adverse development with respect to the FDA's review of that IND or NDA;
- our ability to obtain regulatory approvals for lonafamib or other product candidates, and delays or failures to obtain such approvals;
- failure of any of our product candidates, if approved, to achieve commercial success;
- failure to obtain orphan drug designation;
- failure to maintain our existing third party license and supply agreements;
- failure by our licensors to prosecute, maintain, or enforce our intellectual property rights;
- changes in laws or regulations applicable to our product candidates;
- any inability to obtain adequate supply of our product candidates or the inability to do so at acceptable prices;
- adverse regulatory authority decisions;
- introduction of new products, services, or technologies by our competitors;
- failure to meet or exceed financial and development projections we may provide to the public;
- failure to meet or exceed the financial and development projections of the investment community;
- the perception of the pharmaceutical industry by the public, legislatures, regulators, and the investment community;
- announcements of significant acquisitions, strategic partnerships, joint ventures, or capital commitments by us or our competitors;
- disputes or other developments relating to proprietary rights, including patents, litigation matters, and our ability to obtain patent protection for our technologies;

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- additions or departures of key personnel;
- significant lawsuits, including patent or stockholder litigation;
- if securities or industry analysts do not publish research or reports about our business, or if they issue an adverse or misleading opinions regarding our business and stock;
- changes in the market valuations of similar companies;
- general market or macroeconomic conditions;
- sales of our common stock by us or our stockholders in the future;
- trading volume of our common stock.
- announcements by commercial partners or competitors of new commercial products, clinical progress or the lack thereof, significant contracts, commercial relationships or capital commitments;
- adverse publicity relating to the hepatitis market generally, including with respect to other products and potential products in such markets;
- the introduction of technological innovations or new therapies that compete with potential products of ours;
- changes in the structure of health care payment systems; and
- period-to-period fluctuations in our financial results.

Moreover, the stock markets in general have experienced substantial volatility that has often been unrelated to the operating performance of individual companies. These broad market fluctuations may also adversely affect the trading price of our common stock.

In the past, following periods of volatility in the market price of a company's securities, stockholders have often instituted class action securities litigation against those companies. Such litigation, if instituted, could result in substantial costs and diversion of management attention and resources, which could significantly harm our profitability and reputation.

We will incur costs and demands upon management as a result of complying with the laws and regulations affecting public companies.

We incur significant legal, accounting and other expenses associated with public company reporting requirements. We also incur costs associated with corporate governance requirements, including requirements under the Sarbanes-Oxley Act, as well as rules implemented by the SEC and The NASDAQ Stock Market LLC. These rules and regulations impose significant legal and financial compliance costs and make some activities more time-consuming and costly. For example, our management team consists of certain executive officers of Private Eiger prior to the merger, some of whom have not previously managed and operated a public company. These executive officers and other personnel will need to devote substantial time to gaining expertise regarding operations as a public company and compliance with applicable laws and regulations. In addition, it may be more difficult for us to attract and retain qualified individuals to serve on our board of directors or as executive officers, which may adversely affect investor confidence in our post merger company and could cause our business or stock price to suffer.

Anti-takeover provisions in our charter documents and under Delaware law could make an acquisition of us more difficult and may prevent attempts by our stockholders to replace or remove our management.

Provisions in our certificate of incorporation and bylaws may delay or prevent an acquisition or a change in management. These provisions include a classified board of directors, a prohibition on actions by written consent

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of our stockholders and the ability of the board of directors to issue preferred stock without stockholder approval. In addition, because we are incorporated in Delaware, we are governed by the provisions of Section 203 of the DGCL, which prohibits stockholders owning in excess of 15% of our voting stock from merging or combining with us. Although we believe these provisions collectively will provide for an opportunity to receive higher bids by requiring potential acquirors to negotiate with our board of directors, they would apply even if the offer may be considered beneficial by some stockholders. In addition, these provisions may frustrate or prevent any attempts by our stockholders to replace or remove then current management by making it more difficult for stockholders to replace members of the board of directors, which is responsible for appointing the members of management.

We are at risk of additional securities class action litigation.

In the past, securities class action litigation has often been brought against a company following a decline in the market price of its securities, including against Celladon in 2015 which we are continuing to defend. The risk of securities litigation is especially relevant for us because biotechnology companies have experienced significant stock price volatility in recent years. If we face such additional securities litigation, it could result in substantial costs and a diversion of management's attention and resources, which could harm our business.

We do not anticipate that we will pay any cash dividends in the foreseeable future.

We expect to retain our future earnings to fund the development and growth of our business. As a result, capital appreciation, if any, of our common stock will be the sole source of gain for our stockholders, if any, for the foreseeable future.

Future sales of shares by existing stockholders could cause our stock price to decline.

If existing stockholders sell, or indicate an intention to sell, substantial amounts of our common stock in the public market after legal restrictions on resale lapse, the trading price of our common stock could decline.

The ownership of our common stock is highly concentrated, and it may prevent stockholders from influencing significant corporate decisions and may result in conflicts of interest that could cause our stock price to decline.

Our executive officers, directors and 5% stockholders and their affiliates beneficially own or control a significant percentage of the outstanding shares of our common stock. Accordingly, these executive officers, directors, 5% stockholders and their affiliates, acting as a group, have substantial influence over the outcome of corporate actions requiring stockholder approval, including the election of directors, any merger, consolidation or sale of all or substantially all of our assets or any other significant corporate transactions. These stockholders may also delay or prevent a change of control of us, even if such a change of control would benefit our other stockholders. The significant concentration of stock ownership may adversely affect the trading price of our common stock due to investors' perception that conflicts of interest may exist or arise.

Because our recent merger resulted in an ownership change under Section 382 of the Internal Revenue Code for Celladon, pre-merger net operating loss carryforwards and certain other tax attributes are now subject to limitations.

If a corporation undergoes an "ownership change" within the meaning of Section 382 of the Internal Revenue Code of 1986, as amended, or Section 382, the corporation's net operating loss carryforwards and certain other tax attributes arising from before the ownership change are subject to limitations on use after the ownership change. In general, an ownership change occurs if there is a cumulative change in the corporation's equity ownership by certain stockholders that exceeds fifty percentage points over a rolling three-year period. Similar rules may apply under state tax laws. Our recent merger involving Celladon and Private Eiger resulted in

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an ownership change for Celladon and, accordingly, Celladon's net operating loss carryforwards and certain other tax attributes will be subject to further limitations on their use after the merger. Additional ownership changes in the future could result in additional limitations on the combined organization's net operating loss carryforwards. Consequently, even if we achieve profitability, we may not be able to utilize a material portion of our net operating loss carryforwards and other tax attributes, which could have a material adverse effect on cash flow and results of operations.

ITEM 1B. Unresolved Staff Comments

Not applicable.

ITEM 2. Properties

Our corporate headquarters are located at 350 Cambridge Avenue, Suite 350, Palo Alto, California 94306 in a facility we lease encompassing approximately 1,570 square feet of office space. The lease for this office space expires in March 2018, has one two year renewal option prior to expiration and includes rent escalation clauses through the lease term. In January 2016, we entered into a sub-lease for 4,029 square feet of additional office space located at 366 Cambridge Avenue in Palo Alto, California 94306. The sub-lease for this office space expires on March 30, 2017.

ITEM 3. Legal Proceedings

In July 2015, following Celladon's announcements of the negative CUPID 2 data and the suspension of further research and development activities and the subsequent declines of the price of Celladon's common stock, three putative securities class action complaints (captioned Fialkov v. Celladon Corporation, Case No. 15-cv-1458-AJB-DHB, Lorusso v. Celladon Corporation, Case No. 15-cv-1501-L-JLB and Jacobs v. Celladon Corporation, Case No. 15-cv-1529-AJB-MDD) were filed in the U.S. District Court for the Southern District of California against Celladon and certain of Celladon's current and former officers. The complaints generally allege that the defendants violated Sections 10(b) and 20(a) of the Exchange Act by making materially false and misleading statements regarding the clinical trial program for MYDICAR, thereby artificially inflating the price of Celladon's common stock. The complaints seek unspecified monetary damages and other relief, including attorneys' fees. On September 1, 2015, six stockholders (or groups of stockholders) filed motions to consolidate the three putative securities class actions and to appoint lead plaintiffs (the "Motions to Consolidate"). A hearing on the Motions to Consolidate was held on December 3, 2015. On December 9, 2015, the Court consolidated the three putative securities class actions and appointed a lead plaintiff to represent the putative class. On February 29, 2016, the lead plaintiff filed a consolidated amended complaint. It is possible that additional suits will be filed, or allegations made by stockholders, with respect to these same or other matters and also naming us and/or Celladon's former officers and directors as defendants. We believe that we have meritorious defenses and intend to defend these lawsuits vigorously. Due to the early stage of these proceedings, we are not able to predict or reasonably estimate the ultimate outcome or possible losses relating to these claims.

ITEM 4. Mine Safety Disclosures

Not applicable.

PART II

ITEM 5. Market for Registrant’s Common Equity, Related Stockholder Matters and Issuer Purchases of Equity Securities

Market Information

On March 22, 2016, Celladon and Private Eiger completed the Merger. Immediately prior to the Merger, Celladon completed a 1-for-15 reverse stock split. Following the Merger, we changed the name of the combined company to Eiger BioPharmaceuticals, Inc. and changed the symbol to “EIGR.” Our common stock originally began trading on The NASDAQ Global Market on January 30, 2014. Prior to January 30, 2014, there was no public market for our common stock. The following table sets forth the high and low sales prices per share of our common stock as reported on The NASDAQ Global Market for the period indicated, adjusted for the reverse stock split.

	Price Range	
	High	Low
Year Ended December 31, 2015		
First Quarter	\$423.75	\$232.65
Second Quarter	\$288.00	\$ 18.60
Third Quarter	\$ 19.35	\$ 15.00
Fourth Quarter	\$ 28.35	\$ 15.00
Year Ended December 31, 2014		
First Quarter (commencing January 30, 2014)	\$257.40	\$111.75
Second Quarter	\$247.05	\$117.30
Third Quarter	\$250.80	\$138.00
Fourth Quarter	\$312.75	\$138.00

Holders of Record

As of March 15, 2016, there were approximately 15 stockholders of record of our common stock. Certain shares are held in “street” name and accordingly, the number of beneficial owners of such shares is not known or included in the foregoing number.

Dividend Policy

We have never declared or paid any dividends on our common stock. We currently intend to retain all available funds and future earnings, if any, to fund the development and expansion of our business, and we do not anticipate paying any cash dividends in the foreseeable future. Any future determination to pay dividends, if permitted, will be made at the discretion of our board of directors.

ITEM 6. Selected Financial Data

The following selected financial data should be read in conjunction with our audited financial statements located elsewhere in this Annual Report on Form 10-K and “Item 7. Management’s Discussion and Analysis of Financial Condition and Results of Operations.” Amounts are in thousands, except share and per share data.

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The financial information included in this Selected Financial Data is that of Celladon prior to the Merger because the Merger was consummated after the period covered by the financial statements included in this Annual Report on Form 10-K. Accordingly, the historical financial information included in this Annual Report on Form 10-K, unless otherwise indicated or as the context otherwise requires, is that of Celladon and its subsidiaries prior to the Merger.

	Years Ended December 31,				Six Months Ended December 31,	Year Ended June 30, 2011
	2015	2014	2013	2012	2011	
Consolidated Statements of Operations Data:						
Operating expenses:						
Research and development	\$ 21,959	\$ 22,676	\$ 16,927	\$ 13,314	\$ 1,252	\$ 4,193
General and administrative	12,435	10,342	3,037	2,631	920	1,832
Restructuring charges	7,787	—	—	—	—	—
Total operating expenses	42,181	33,018	19,964	15,945	2,172	6,025
Loss from operations	(42,181)	(33,018)	(19,964)	(15,945)	(2,172)	(6,025)
Other income (expense)	(2,232)	(835)	(127)	74	(689)	(965)
Consolidated net loss	(44,413)	(33,853)	(20,091)	(15,871)	(2,861)	(6,990)
Net loss attributable to non-controlling interest	—	—	96	154	—	—
Net loss attributable to Celladon Corporation	(44,413)	(33,853)	(19,995)	(15,717)	(2,861)	(6,990)
Accretion to redemption value of redeemable convertible preferred stock	—	—	—	(343)	—	—
Change in fair value of non-controlling interest	—	—	(3,105)	(154)	—	—
Deemed dividend	—	—	(856)	—	—	—
Net loss attributable to common stockholders	\$ (44,413)	\$ (33,853)	\$ (23,956)	\$ (16,214)	\$ (2,861)	\$ (6,990)
Net loss per share attributable to common stockholders, basic and diluted(1)	\$ (27.93)	\$ (27.30)	\$ (406.41)	\$ (296.03)	\$ (15,381.72)	\$ (41,117.65)
Weighted-average shares outstanding, basic and diluted	1,590,211	1,240,240	58,945	54,771	186	170

	As of December 31,				
	2015	2014	2013	2012	2011
Consolidated Balance Sheet Data:					
Cash, cash equivalents and investments	\$ 32,777	\$ 84,948	\$ 18,370	\$ 35,511	\$ 468
Working capital (deficit)	31,218	81,477	11,990	31,159	(14,835)
Total assets	33,886	89,110	21,154	35,929	636
Redeemable non-controlling interest	—	—	—	4,814	—
Redeemable convertible preferred stock	—	—	60,098	52,274	—
Convertible preferred stock	—	—	5,450	5,450	56,282
Deficit accumulated	(190,852)	(146,439)	(112,586)	(92,591)	(76,874)
Total stockholders' equity (deficit)	31,553	72,104	(50,991)	(28,416)	(70,979)

- (1) See Note 1 to Celladon's consolidated financial statements appearing elsewhere in this Report for an explanation of the method used to calculate basic and diluted net loss per share attributable to common stockholders and the number of shares used in the computation of the per share amounts.

ITEM 7. Management’s Discussion and Analysis of Financial Condition and Results of Operations

You should read the following discussion and analysis together with “Item 6. Selected Financial Data” and our financial statements and related notes included elsewhere in this Annual Report. The following discussion contains forward-looking statements that involve risks and uncertainties. Our actual results could differ materially from those expressed or implied in any forward-looking statements as a result of various factors, including those set forth under the caption “Item 1A. Risk Factors.”

Unless otherwise indicates, references to the terms the “combined company,” “Eiger,” the “Company,” “we,” “our” and “us” refer to Eiger BioPharmaceuticals, Inc. (formerly known as Celladon Corporation) and its subsidiaries after the merger described herein. The term “Private Eiger” refers to privately-held Eiger BioPharmaceuticals, Inc. prior to its merger with Celladon Merger Sub, Inc. a wholly-owned subsidiary of Celladon Corporation. The term “Celladon” refers to Celladon Corporation and its subsidiaries prior to the merger.

The financial information included in this Management’s Discussion and Analysis of Financial Condition and Results of Operations is that of Celladon prior to the Merger because the Merger was consummated after the period covered by the financial statements included in this Annual Report on Form 10-K. Accordingly, the historical financial information included in this Annual Report on Form 10-K, unless otherwise indicated or as the context otherwise requires, is that of Celladon and its subsidiaries prior to the Merger.

Introduction

We are a clinical stage biopharmaceutical company focused on bringing to market novel product candidates for the treatment of orphan diseases. We have worked with investigators at Stanford and have evaluated a number of potential development candidates from pharmaceutical companies to comprise a pipeline of novel product candidates. Our pipeline includes three Phase 2 candidates addressing four distinct orphan diseases. The programs have several aspects in common: the disease targets represent conditions of high medical need which are inadequately treated by current standard of care; the therapeutic approaches are supported by an understanding of disease biology and mechanism as elucidated by our academic research relationships; prior clinical experience with the product candidates guides an understanding of safety; and the development paths leverage the experience and capabilities of our experienced, commercially focused management team. The pipeline includes Sarasar[®] (lonafamib) for HDV, exendin (9-39) for severe hypoglycemia, and Bestatin[™] (ubenimex) for PAH and lymphedema. Lonafamib and ubenimex (for PAH) have been granted orphan drug designation by the U.S. Food and Drug Administration, or the FDA, and European Medicines Agency, or the EMA. Lonafamib is our most advanced program and to date, over 50 HDV infected patients have been dosed with lonafamib across international Phase 2 clinical trials.

Recent Developments

On March 22, 2016, Celladon and Private Eiger completed a business combination in accordance with the terms of the Agreement and Plan of Merger and Reorganization (the “Merger Agreement”), dated as of November 18, 2015, by and among Celladon, Merger Sub and Private Eiger, pursuant to which Merger Sub merged with and into Private Eiger, with Private Eiger surviving as a wholly-owned subsidiary of Celladon. This transaction is referred to as “the merger” or “the Merger.”

Immediately prior to the Merger, on March 22, 2016, Celladon effected a 1-for-15 reverse stock split on its issued and outstanding common stock. Upon the closing of the Merger, each outstanding share of Private Eiger’s common stock converted into approximately 0.09 shares of Celladon’s common stock. In addition, each outstanding option to purchase Private Eiger’s stock options and each outstanding warrant to purchase Private Eiger’s common stock prior to the effective time of the Merger was converted into an option or warrant to purchase Celladon’s common stock. No fractional shares of Celladon’s common stock were issued in connection

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with the Merger. Instead, Private Eiger's stockholders received cash in lieu of any fractional shares of Eiger's common stock such stockholders would have otherwise been entitled to receive in accordance with the Merger Agreement. Immediately following the Merger, the combined company changed its name from "Celladon Corporation" to "Eiger Biopharmaceuticals, Inc."

Immediately prior to the closing of the Merger, Private Eiger sold approximately \$39.5 million in shares of its common stock to certain former stockholders of Private Eiger and certain new investors in Private Eiger (the "Financing"), which amount included the conversion of the \$6.0 million in aggregate principal amount outstanding under, and all interest accrued on, certain convertible promissory notes of Private Eiger. We intend to use the proceeds from the Financing to help fund our development pipeline, for working capital and general corporate purposes. The Merger will be accounted for as a reverse merger under the acquisition method of accounting. Under the acquisition method of accounting, Private Eiger will be treated as the accounting acquiror and Celladon will be treated as the "acquired" company for financial reporting purposes because, immediately upon completion of the Merger, the stockholders of Private Eiger, prior to the Merger held a majority of the voting interest of the combined company. The total purchase price for Celladon was approximately \$26.8 million and will be allocated to identifiable tangible and intangible assets existing as of March 22, 2016 with any residual amount recorded as goodwill.

The reverse stock split did not alter the par value of our common stock or modify any voting rights or other terms of our common stock.

The financial information included in this Management's Discussion and Analysis of Financial Condition and Results of Operations is that of Celladon prior to the Merger because the Merger was consummated after the period covered by the financial statements included in this Annual Report on Form 10-K. Accordingly, the historical financial information included in this Annual Report on Form 10-K, unless otherwise indicated or as the context otherwise requires, is that of Celladon prior to the Merger.

Celladon Overview

Prior to the Merger, Celladon was a biotechnology company focused on the development of cardiovascular gene therapy. Celladon was incorporated in California on December 21, 2000 and reincorporated in Delaware in April 2012. As a consequence of the negative results from the Phase 2b clinical trial of its lead product candidate, MYDICAR® (AAV1/SERCA2a) that were received in late April 2015, Celladon suspended further research and development of MYDICAR and its pre-clinical programs and implemented other cost cutting measures, including the termination of certain contracts and taking other actions as described below.

During the second quarter of 2015, Celladon's Board of Directors approved, in two phases, an aggregate reduction of approximately 70% of its peak workforce of 34 employees as of April 30, 2015 in order to reduce operating expenses and conserve cash resources. Also during 2015, Celladon committed to retention payments payable to certain key employees if such employees remained employed by Celladon until December 31, 2015 or were terminated by Celladon without cause prior to such date. During the fourth quarter of 2015, Celladon's Board of Directors approved a reduction in force affecting all of Celladon's remaining employees other than its President and Chief Executive Officer, its Chief Financial Officer and its Vice President, General Counsel.

In June 2015, Celladon's Board of Directors approved the voluntary prepayment of the outstanding amounts due under its Loan and Security Agreement with Hercules Technology III, L.P. and Hercules Technology Growth Capital, Inc. (as agent and as a lender, and together with Hercules Technology III, L.P., the "Lenders") dated July 31, 2014 (the "Loan Agreement"), with such prepayment to be effected on August 3, 2015 (the "Prepayment Date"). On the Prepayment Date, Celladon paid the Lenders: (i) the \$10.0 million outstanding principal balance, (ii) \$0.1 million in accrued and unpaid interest, and (iii) an end of term charge of \$1.8 million for a total payment of \$11.8 million.

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In September 2015, Celladon entered into a Sublease Termination and Settlement Agreement (the “Termination Agreement”) with Brandes Investment Partners, L.P. (“Brandes”) providing for the termination of that certain Sublease Agreement by and between Celladon and Brandes dated May 28, 2014 (the “Lease”). Pursuant to the Termination Agreement, the parties agreed to terminate the Lease during the third quarter of 2015 and Celladon agreed to pay an early termination fee of \$950,000 to Brandes in consideration of Brandes’ entry into the Termination Agreement and release of Celladon from any further base rent or other payment obligations that would otherwise arise pursuant to the Lease.

In February 2016, Celladon completed the long-term follow-up stage of a 250-patient randomized, double-blind, placebo-controlled multinational Phase 2b trial that was designed to evaluate MYDICAR in patients with heart failure for reduced ejection fraction, or HFrEF (also referred to as systolic heart failure). This Phase 2b trial is referred to as the CUPID 2 trial.

Historically, Celladon devoted substantially all of its resources to research and development efforts relating to its product candidates, including conducting clinical trials and developing manufacturing capabilities, in-licensing related intellectual property, providing general and administrative support for these operations and protecting its intellectual property. Celladon did not have any products approved for sale and did not generate any revenue from product sales or other sources. From Celladon’s inception through December 31, 2015, it funded its operations primarily through the sales of equity and debt securities totaling approximately \$208.3 million. In February 2014, Celladon completed an initial public offering (“IPO”) of its common stock pursuant to a Registration Statement on Form S-1 (File No. 333-191688) raising an aggregate of \$44.3 million in net proceeds. In August 2014, Celladon completed a follow-on offering of its common stock pursuant to a Registration Statement on Form S-1 (File No. 333-197720) raising an aggregate of \$40.7 million in net proceeds.

Celladon incurred net losses in each year since its inception. As of December 31, 2015, Celladon had an accumulated deficit of approximately \$190.9 million. Substantially all of its net losses, including those incurred during the periods presented in this report, resulted from costs incurred in connection with its research and development programs and from general and administrative costs associated with its operations.

Financial Operations Overview

Research and Development Expenses

Prior to the suspension of further research and clinical development activities, Celladon devoted substantially all of its resources to research and development efforts relating to its product candidates, including conducting clinical trials, developing manufacturing capabilities, in-licensing related intellectual property, providing general and administrative support for these operations and protecting its intellectual property. Celladon recognized research and development expenses as they were incurred. Celladon research and development expenses consisted primarily of:

- salaries and related overhead expenses, which include stock-based compensation and benefits for personnel in research and development functions;
- fees paid to contract manufacturers for commercial scale-up activities;
- fees paid to consultants and contract research organizations (“CROs”) including in connection with preclinical studies and clinical trials and other related clinical trial fees, such as for investigator grants, patient screening, laboratory work, clinical trial material management and statistical compilation and analysis;
- costs related to acquiring and manufacturing clinical trial materials, including continued testing such as process validation and stability of drug product;
- costs related to compliance with regulatory requirements; and
- payments related to licensed products and technologies.

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From Celladon's inception through December 31, 2015, Celladon incurred approximately \$136.7 million in research and development expenses, of which we estimate \$130.0 million related to its development of MYDICAR. Celladon's direct research and development expenses consisted principally of external costs, such as fees paid to investigators, consultants, central laboratories and CROs, in connection with clinical trials, developing manufacturing capabilities and costs related to acquiring and manufacturing clinical trial materials. Prior to Celladon's reductions in force including all its research and development staff, Celladon typically used its employee and infrastructure resources across multiple research and development programs. We expect the research and development expenses related to Celladon activities to decrease compared to prior periods through the completion of the CUPID 2 trial in the first quarter of 2016 due to Celladon's reduction in workforce, its suspension of further research and development activities and its reduced facility space and rent.

MYDICAR-HFrEF

Prior to the suspension of further research and clinical development activities, the majority of Celladon's research and development resources were focused on the CUPID 2 trial, commercialization and manufacturing preparations, clinical trials and other work needed to submit MYDICAR for regulatory approval in the United States and Europe.

MYDICAR-PAH

Prior to the suspension of further research and clinical development activities, Celladon's research and development expenses for MYDICAR for PAH related primarily to the preclinical testing in porcine models of PAH.

Stem Cell Factor Program

Prior to the suspension of further research and clinical development activities, Celladon's research and development expenses for its stem cell factor program related primarily to the preclinical testing of the membrane-bound form of the Stem Cell Factor gene, or mSCF, in myocardial infarction porcine models.

Small Molecule Program

Prior to the suspension of further research and clinical development activities, Celladon's research and development expenses for the small molecule program related primarily to identification and pre-clinical testing of small molecule SERCA2 enzyme modulators.

General and Administrative Expenses

General and administrative expenses consisted primarily of salaries and related costs for employees in executive, finance, legal and administration, corporate development and administrative support functions, including stock-based compensation expenses and benefits. Other significant general and administrative expenses included accounting and legal services, expenses associated with obtaining and maintaining patents, the cost of various consultants, occupancy costs and information systems costs. General and administrative expenses also included costs to support the merger transaction. We expect the general and administrative expenses related to Celladon activities to decrease compared to prior periods due to a reduction in workforce, suspended activities related to pre-commercial planning and reduced facility space and rent.

Restructuring Charges

In light of the CUPID 2 results and following analysis of the CUPID 2 data, Celladon implemented three reductions in workforce starting in the second quarter of 2015 to reduce operating expenses and conserve cash resources while it evaluated its strategic alternatives. Celladon also committed to retention payments payable to

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certain key employees if such employees remained with the company until December 31, 2015 or were terminated by Celladon without cause prior to such date. The restructuring charges consisting of severance and retention commitments were fully settled in the first quarter of 2016. Also included in restructuring charges were asset impairments related to certain equipment used in the MYDICAR manufacturing process and early termination fees incurred upon the termination of certain facility subleases. We may incur additional charges in the future for additional restructuring activities.

Other Income (Expense)

Other income consisted primarily of interest income earned on Celladon's cash, cash equivalents and investments. Other expense consisted primarily of the accretion of debt discount and interest charges on prior debt agreements and the change in the fair value of outstanding warrant liability prior to its reclassification to stockholders' equity in February 2014 in connection with the closing of Celladon's initial public offering. In August 2015, Celladon prepaid the outstanding amounts due under its Loan and Security Agreement and recorded the debt discount balance as interest expense in the financial statements.

Critical Accounting Policies and Estimates

Our management's discussion and analysis of our financial condition and results of operations is based on our consolidated financial statements, which we have prepared in accordance with generally accepted accounting principles in the United States, or GAAP. The preparation of our consolidated financial statements requires us to make estimates and assumptions that affect the reported amounts of assets and liabilities and the disclosure of contingent assets and liabilities at the date of its consolidated financial statements, as well as the reported expenses during the reported periods. We evaluate these estimates and judgments on an ongoing basis. We base our estimates on historical experience and on various other factors that it believes are reasonable under the circumstances, the results of which form the basis for making judgments about the carrying value of assets and liabilities that are not readily apparent from other sources. Actual results may differ from these estimates under different assumptions or conditions.

Clinical Trial Accruals and Prepayments

As part of the process of preparing our consolidated financial statements, we are required to estimate our expenses resulting from our obligations under contracts with vendors and consultants and clinical site agreements in connection with conducting clinical trials. The financial terms of these contracts are subject to negotiations which vary from contract to contract and may result in payment flows that do not match the periods over which materials or services are provided to us under such contracts. Our clinical trial accrual and prepayments are dependent upon the timely and accurate reporting of CROs and other third-party vendors.

Our objective is to reflect the appropriate clinical trial expenses in our consolidated financial statements by matching those expenses with the period in which services and efforts are expended. We account for these expenses according to the progress of the trial as measured by patient progression and the timing of various aspects of the trial. We determine accrual and prepayment estimates through discussion with applicable personnel and outside service providers as to the progress or state of completion of clinical trials, or the services completed. During the course of a clinical trial, we adjust the rate of clinical trial expense recognition if actual results differ from the estimates. We make estimates of our accrued and prepaid expenses as of each balance sheet date in our financial statements based on facts and circumstances known at that time. Although we do not expect that our estimates will be materially different from amounts actually incurred, our understanding of status and timing of services performed relative to the actual status and timing of services performed may vary and may result in its reporting amounts that are too high or too low for any particular period. Through December 31, 2015, there have been no material adjustments to prior period estimates of accrued and prepaid expenses for clinical trials. However, due to the nature of estimates, we cannot assure you that we will not make changes to our

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estimates in the future as we becomes aware of additional information about the status or conduct of our clinical trials.

Stock-Based Compensation

Stock-based compensation expense represents the grant date fair value of employee equity grants recognized over the requisite service period of the awards (usually the vesting period) on a straight-line basis, net of estimated forfeitures. For awards with performance-based milestones, the expense is recorded over the remaining service period after the point when the achievement of the milestone is probable or the performance condition has been achieved.

We account for awards granted to non-employees using the fair-value approach. These awards are subject to periodic revaluation over their vesting terms.

We estimate the fair value of stock options granted to employees and non-employees using the Black-Scholes option pricing model, which requires the input of highly subjective assumptions, including (a) the risk-free interest rate, (b) the expected volatility of our stock, (c) the expected term of the award and (d) the expected dividend yield. Until our initial public offering, there was no public market for the trading of our common stock. Due to this fact and a lack of company specific historical and implied volatility data, we have based our estimate of expected volatility on the historical volatility of a group of similar companies that are publicly traded. For these analyses, we have selected companies with comparable characteristics to us, including enterprise value, risk profiles, position within the industry and with historical share price information sufficient to meet the expected life of the stock-based awards. We compute the historical volatility data using the daily closing prices for the selected companies' shares during the equivalent period of the calculated expected term of the stock-based awards. We will continue to apply this process until a sufficient amount of historical information regarding the volatility of our own stock price becomes available. We have estimated the expected life of our employee stock options using the "simplified" method, whereby, the expected life equals the average of the vesting term and the original contractual term of the option. The risk-free interest rate is based on U.S. Treasury zero-coupon bonds with maturities similar to those of the expected term of the award being valued.

Other Information

Net Operating Loss Carryforwards

As of December 31, 2015, Celladon had federal and California tax net operating loss carryforwards of approximately \$114.4 million and \$78.2 million, respectively. The federal net operating loss carryforwards will begin to expire in 2027 unless previously utilized, and the state net operating loss carryforwards have already begun to expire, and will continue to do so, unless utilized. As of December 31, 2015, Celladon had federal and California research and development tax credit carryforwards of approximately \$1.6 million and \$1.3 million, respectively. The federal research and development tax credit carryforwards will begin to expire in 2032, unless previously utilized. The California research and development tax credit carryforwards are available indefinitely until utilized.

The future utilization of net operating loss and tax credit carryforwards may be limited due to changes in ownership. In general, if we experience a greater than 50% aggregate change in ownership of certain significant stockholders or groups over a three-year period, or a Section 382 ownership change, utilization of our pre-change net operating loss carryforwards would be subject to an annual limitation under Section 382 of the Internal Revenue Code of 1986, as amended, or the Code, and similar state laws. The annual limitation is generally determined by multiplying the value of our stock at the time of such ownership change (subject to certain adjustments) by the applicable long-term tax-exempt rate. Such limitations may result in expiration of a portion of the pre-change net operating loss carryforwards before utilization and may be substantial. In 2015 Celladon completed a study to assess whether an ownership change, as defined by Section 382 of the Code, had occurred

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since its formation. Based upon the results of this study, Celladon determined that several ownership changes had occurred and Celladon reduced its deferred tax asset with a corresponding adjustment to the valuation allowance accordingly. Celladon has recorded a valuation allowance for the full amount of the remaining portion of the deferred tax asset related to its net operating loss and research and development tax credit carryforwards. We may also experience ownership changes in the future as a result of subsequent shifts in our stock ownership. As a result, if we earn net taxable income, our ability to use our pre-change net operating loss carryforwards to offset U.S. federal taxable income may be subject to limitations, which could potentially result in increased future tax liability to us.

JOBS Act

On April 5, 2012, the JOBS Act was enacted. Section 107 of the JOBS Act provides that an “emerging growth company” can take advantage of the extended transition period provided in Section 7(a)(2)(B) of the Securities Act for complying with new or revised accounting standards. In other words, an “emerging growth company” can delay the adoption of certain accounting standards until those standards would otherwise apply to private companies. We have irrevocably elected not to avail ourselves of this extended transition period and, as a result, we will adopt new or revised accounting standards on the relevant dates on which adoption of such standards is required for other public companies.

Subject to certain conditions set forth in the JOBS Act, as an “emerging growth company,” we intend to rely on certain of these exemptions, including without limitation, (1) providing an auditor’s attestation report on our system of internal controls over financial reporting pursuant to Section 404(b) of the Sarbanes-Oxley Act and (2) complying with any requirement that may be adopted by the Public Company Accounting Oversight Board regarding mandatory audit firm rotation or a supplement to the auditor’s report providing additional information about the audit and the consolidated financial statements, known as the auditor discussion and analysis. We will remain an “emerging growth company” until the earliest of (a) the last day of the fiscal year in which we have total annual gross revenues of \$1 billion or more, (b) the last day of our fiscal year following the fifth anniversary of the date of the completion of our initial public offering, (c) the date on which we have issued more than \$1 billion in non-convertible debt during the previous three years or (d) the date on which we are deemed to be a large accelerated filer under the rules of the SEC.

Results of Operations

Comparison of the Years Ended December 31, 2015 and 2014

The following table summarizes Celladon’s results of operations for the years ended December 31, 2015 and 2014 (in thousands):

	Years Ended December 31,		Increase / (Decrease)
	2015	2014	
Research and development	\$21,959	\$22,676	\$ (717)
General and administrative	12,435	10,342	2,093
Restructuring charges	7,787	—	7,787
Total other income (expense)	(2,232)	(835)	(1,397)

Research and Development Expenses. Research and development expenses were \$22.0 million and \$22.7 million for the years ended December 31, 2015 and 2014, respectively. The decrease of approximately \$0.7 million was due primarily to a decrease of \$2.4 million in expenses during 2015 in clinical and consulting costs due to the lower cost, long-term follow up stage of the CUPID 2 trial and cancellation of other development efforts following the negative results of the CUPID 2 trial in April 2015, \$1.5 million in personnel costs and \$0.8 million in stock-based compensation due to the reduction in workforce, partially offset by a \$3.4 million increase

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in drug substance manufacturing scale-up costs prior to the data unblinding and \$0.6 million in close-out fees of preclinical studies and various other expenses.

General and Administrative Expenses. General and administrative expenses were \$12.4 million and \$10.3 million for the years ended December 31, 2015 and 2014, respectively. The increase of approximately \$2.1 million was due primarily to an increase of \$1.5 million in costs related to the preparation and filing of a registration statement on Form S-4 and the Merger, including \$0.9 million in consulting and \$0.9 million in legal and printing costs. The increase also included \$0.7 million in market research and commercialization efforts prior to the data unblinding, \$0.5 million in stock-based compensation due to increased grants, \$0.4 million in personnel costs due to a higher average headcount during 2015, partially offset by a \$0.4 million decrease in recruiting and training due to reduced new hires, \$0.2 million in investor relations, \$0.2 million in patent costs and \$0.2 million in travel and various other administrative expenses.

Restructuring Charges. Restructuring charges were \$7.8 million and zero for the years ended December 31, 2015 and 2014, respectively. The charges incurred during the year ended December 31, 2015, included \$4.0 million related to employee severance costs, \$2.5 million related to retention payment costs, \$1.1 million in facility lease termination costs and \$0.2 million in asset impairments. No similar restructuring charges occurred during 2014.

Other Expense. Other expense was \$2.2 million and \$0.8 million for the years ended December 31, 2015 and 2014, respectively. The other expense for the year ended December 31, 2015 consisted primarily of expenses related to the prepayment of Celladon's term loan in August 2015, including \$1.3 million related to the accelerated accretion of the debt terminal fee, \$0.5 million of cash interest charges and \$0.5 million of accretion of debt discount and debt issuance costs. The other expense for the year ended December 31, 2014 consisted primarily of \$0.7 million of expense related to the accretion of debt discount and interest charges on Celladon's term loan and a \$0.2 million increase in fair value of the warrant liability prior to reclassification to equity upon our IPO.

Comparison of the Years Ended December 31, 2014 and 2013

The following table summarizes Celladon's results of operations for the years ended December 31, 2014 and 2013 (in thousands):

	Years Ended December 31,		Increase / (Decrease)
	2014	2013	
Research and development	\$22,676	\$16,927	\$ 5,749
General and administrative	10,342	3,037	7,305
Total other income (expense)	(835)	(127)	(708)

Research and Development Expenses. Research and development expenses were \$22.7 million and \$16.9 million for the years ended December 31, 2014 and 2013, respectively. The increase of approximately \$5.7 million was due primarily to an increase of \$5.7 million in expenses during 2014 associated with the drug substance manufacturing scale-up, \$1.7 million in personnel costs related to an increase in headcount, \$0.6 million in non-clinical studies related to MYDICAR, \$0.4 million in stock-based compensation, \$0.3 million in consulting, regulatory and other costs offset by a decrease of \$3.0 million in clinical costs due to the completion of enrollment in Celladon's CUPID2 trial in the first quarter of 2014.

General and Administrative Expenses. General and administrative expenses were \$10.3 million and \$3.0 million for the years ended December 31, 2014 and 2013, respectively. The increase of approximately \$7.3 million was due primarily to an increase of \$2.5 million in compensation expense related to an increase in headcount, \$2.1 million in costs associated with operating as a publicly traded company, including investor

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relations, legal, audit, insurance, taxes and director fees, \$1.5 million in stock-based compensation, \$0.7 million in marketing costs and \$0.5 million in patent, office and other costs.

Other Expense. Other expense was \$0.8 million and \$0.1 million for the years ended December 31, 2014 and 2013, respectively. The other expense for the year ended December 31, 2014 consisted primarily of \$0.7 million of expense related to the accretion of debt discount and interest charges on Celladon's term loan and \$0.2 million increase in fair value of the warrant liability prior to reclassification to equity upon Celladon's initial public offering. The other expense for the year ended December 31, 2013 consisted primarily of \$0.2 million of other expense related to an increase in the fair value of the outstanding warrant liability and \$45,000 of interest expense related to the amortization of debt discount on the outstanding convertible debt, offset by \$0.1 million of interest income on Celladon's investments and \$25,000 foreign currency exchange gain.

Liquidity and Capital Resources

Celladon has incurred net losses each year since inception and as of December 31, 2015, it had an accumulated deficit of approximately \$190.9 million. We anticipate that the combined company will continue to incur net losses for the foreseeable future. We expect that we may need additional capital to fund our operations, which we may obtain through one or more public or private equity offerings, debt financings, government or other third-party funding, strategic alliances and licensing or collaboration arrangements. On August 3, 2015, Celladon prepaid the outstanding amounts due under its loan facility with Hercules, including the \$10.0 million principal borrowed in 2014. Upon the prepayment in August 2015, Celladon's obligations, covenants, debts and liabilities under the loan facility were satisfied in full and Hercules' commitments to extend further credit to Celladon were terminated.

Since Celladon's inception through December 31, 2015, Celladon had funded its operations primarily through the sale of its equity and debt securities. As of December 31, 2015, Celladon had cash and cash equivalents of approximately \$32.8 million. Cash in excess of immediate requirements is invested in accordance with Celladon's investment policy, primarily with a view to liquidity and capital

The following table shows a summary of Celladon's cash flows for the periods indicated (in thousands):

	Years Ended December 31,		
	2015	2014	2013
Net cash provided by (used in):			
Operating activities	\$(41,091)	\$(29,259)	\$(16,196)
Investing activities	70,369	(61,188)	10,854
Financing activities	(10,936)	96,979	(596)
Net (decrease) increase in cash and cash equivalents	<u>\$ 18,342</u>	<u>\$ 6,532</u>	<u>\$ (5,938)</u>

Operating activities. Net cash used in operating activities of \$41.1 million during the year ended December 31, 2015 was primarily a result of our net loss of \$44.8 million. The primary difference between Celladon's net loss and Celladon's cash used in operating activities was \$3.0 million of non-cash stock-based compensation, \$1.8 million of non-cash interest related to the accretion of end of term fees and debt discount on its term loan, \$0.5 million of depreciation expense, \$0.2 million amortization of premiums paid on investment securities, \$0.2 million of asset impairment charges, \$(0.3) million of deferred rent and \$(2.1) million relating to changes in its operating assets and liabilities.

Net cash used in operating activities of \$29.3 million during the year ended December 31, 2014 was primarily a result of Celladon's net loss of \$33.9 million. The primary difference between Celladon's net loss and Celladon's cash used in operating activities was \$3.3 million of non-cash stock-based compensation, \$0.4 million

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of interest income related to the amortization of discounts and premiums paid on investment securities, \$0.4 million of noncash interest related to the accretion of debt discount on its term loan, \$0.2 million related to the change in fair value of its outstanding warrant liability, \$0.2 million of depreciation expense and \$0.1 million relating to changes in its operating assets and liabilities.

Net cash used in operating activities of \$16.2 million during the year ended December 31, 2013 was primarily a result of Celladon's net loss of \$20.1 million. The primary difference between Celladon's net loss and Celladon's cash used in operating activities was \$1.9 million of changes in Celladon's operating assets and liabilities, \$1.4 million of stock-based compensation, \$0.2 million related to the change in fair value of its outstanding warrant liability, \$0.3 million of interest income related to the amortization of discounts and premiums paid on investment securities and \$0.1 million of noncash interest related to the amortization of debt discount on its convertible debt.

Investing Activities. Net cash provided by investing activities of \$70.4 million during the year ended December 31, 2015 was primarily a result of \$70.3 million in net maturities of investment securities used to fund Celladon's operating activities.

Net cash used in investing activities of \$61.2 million during the year ended December 31, 2014 was primarily a result of \$60.5 million in net purchases of investment securities and \$0.7 million in purchases of property and equipment.

Net cash provided by investing activities of \$10.9 million during the year ended December 31, 2013 was primarily a result of the net maturities of investments used to fund Celladon's operating activities.

Financing Activities. Net cash used in financing activities during the year ended December 31, 2015 consisted primarily of \$11.8 million principal and fees paid under Celladon's term loan offset by \$0.8 million in proceeds received from the exercise of stock options.

Net cash provided by financing activities during the year ended December 31, 2014 consisted primarily of \$94.3 million in proceeds received and \$7.7 million in costs paid in connection with Celladon's public offerings, \$9.6 million in net borrowings under Celladon's term loan, \$0.7 million in proceeds from the exercise of stock options and sale of shares under Celladon's employee stock purchase plan and \$0.1 million in proceeds upon the exercise of warrants in exchange for common stock.

Net cash used in financing activities during the year ended December 31, 2013 consisted of \$1.7 million of costs Celladon paid in connection with its IPO, offset by \$1.1 million of proceeds from its issuance of convertible debt.

Future Funding Requirements

To date, we have not generated any revenue from product sales. We do not know when, or if, we will generate any revenue from product sales. We expect to continue to incur substantial operating losses in the future and that our operating expenses will fluctuate as we continue to develop our clinical product candidates and operate as a public company.

Based upon our current operating plan, we believe that our existing cash and cash equivalents will enable us to fund our operations for at least the next 12 months. We have based our planning estimates on assumptions that may prove to be wrong, and we may use our available capital resources sooner than we currently expect.

Our future capital requirements, both near and long-term, will depend on many factors, including, but not limited to:

- the costs to continue the clinical development of our product candidates;
- the costs for the manufacturing of our product candidates;

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- the costs to advance our programs into larger, more expensive clinical studies;
- the cost to initiate additional nonclinical, clinical, or other studies for our product candidates;
- the costs to identify, educate and develop potential commercial opportunities, such as HCV for our lonafamib product candidate;
- the costs to seek regulatory and marketing approvals and reimbursement for our product candidates;
- the costs to establish a sales, marketing, and distribution infrastructure to commercialize any products for which we may obtain marketing approval and market for itself;
- the costs to seek to identify, assess, acquire, and/or develop other product candidates;
- the costs to make milestone, royalty or other payments under third party license agreements;
- the costs to maintain, protect, and expand our intellectual property portfolio;
- the costs to seek to attract and retain skilled personnel;
- create additional infrastructure to support our operations as a public company and our product development and planned future commercialization efforts; and
- the costs associated with litigation, including the costs incurred in defending against claims made in the three putative class action complaints filed in July 2015 following Celladon's announcements regarding the negative CUPID 2 data and suspension of further research and development activities and the subsequent decline of the price of Celladon's common stock.

We expect to finance our operating activities through existing cash and cash equivalents, public or private equity or debt financings, government or other third-party funding, marketing and distribution arrangements and other collaborations, strategic alliances and licensing arrangements or a combination of these approaches. To the extent that we raise additional capital through the sale of equity or convertible debt securities, the ownership interests of the common stockholders will be diluted, and the terms of these securities may include liquidation or other preferences that adversely affect the rights of the common stockholders. Debt financing, if available, may involve agreements that include covenants limiting or restricting our ability to take specific actions, such as incurring additional debt, making capital expenditures or declaring dividends. If we raise additional funds through government or other third-party funding, marketing and distribution arrangements or other collaborations, or strategic alliances or licensing arrangements with third parties, we may have to relinquish valuable rights to our technologies, future revenue streams, research programs or product candidates or to grant licenses on terms that may not be favorable to us.

Contractual Obligations and Commitments

The following table summarizes Celladon's contractual obligations at December 31, 2015 (in thousands):

	Payments due by period				
	Total	Less than 1 year	1 – 3 Years	3 – 5 Years	More than 5 years
Operating lease obligations	\$200	\$ 117	\$ 83	\$ —	\$ —

Additionally, Celladon had entered into contracts in the normal course of business with CROs for a clinical trial and with vendors for other services and products for operating purposes. These agreements generally provided for termination or cancellation within 180 days or less of notice, and therefore are not included in the table above. During 2015 Celladon prepaid its term loan in full and terminated several facility lease contracts. At December 31, 2015, Celladon's operating lease obligations consisted of future rent payments under two San Diego facility lease contracts.

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Each of Celladon's license agreements under which we may be required to pay an annual fee to maintain the license is generally cancelable by us, given appropriate prior written notice and, as such, is excluded from the table above. The annual amounts payable by us to maintain Celladon's existing licenses is approximately \$0.4 million. In addition, we have payment obligations under license agreements that are contingent upon future events such as our achievement of specified development, regulatory and commercial milestones and are required to make development milestone payments and royalty payments in connection with the sale of products developed under these agreements. As of December 31, 2015, we were unable to estimate the timing or likelihood of achieving the milestones or making future product sales and, therefore, any related payments are not included in the table above. We have potential milestone payment obligations of approximately \$3.3 million, assuming only one product is developed or commercialized under each of our existing license agreements.

Off-Balance Sheet Arrangements

During the periods presented Celladon did not have, nor do we currently have, any off-balance sheet arrangements as defined under the rules of the Securities and Exchange Commission.

Recent Accounting Pronouncements

In April 2015, the Financial Accounting Standards Board (the "FASB") issued Accounting Standards Update ("ASU") No. 2015-03, Interest—Imputation of Interest (Subtopic 835-30): Simplifying the Presentation of Debt Issuance Costs. The amendments in this ASU require that debt issuance costs related to a recognized debt liability be presented in the balance sheet as a direct deduction from the carrying amount of that debt liability, consistent with debt discounts. The amendments in this ASU are effective for financial statements issued for fiscal years beginning after December 15, 2015, and interim periods within those fiscal years. Early adoption of the amendments is permitted. The new guidance shall be applied on a retrospective basis, wherein the balance sheet of each individual period presented should be adjusted to reflect the period-specific effects of applying the new guidance. The Company is currently evaluating the impact of the adoption of this standard on its consolidated financial statements.

In August 2014, the FASB issued ASU 2014-15, which defined management's responsibility to evaluate whether there is substantial doubt about an entity's ability to continue as a going concern and to provide related disclosure. ASU 2014-15 defined the term substantial doubt and requires an assessment for a period of one year after the date of the issuance of the financial statements. It requires certain disclosures when substantial doubt is alleviated as a result of consideration of management's plans and requires an express statement and other disclosures when substantial doubt is not alleviated. The guidance becomes effective for reporting periods beginning after December 15, 2016, with early adoption permitted. The Company does not believe that the adoption of this guidance will have a material impact on its consolidated financial statements.

ITEM 7A. Quantitative and Qualitative Disclosures About Market Risk

As of December 31, 2015, Celladon had market risk exposure related to its cash and cash equivalents. Historically, Celladon had invested its excess cash in highly liquid short-term investments such as money market funds. Changes in interest rates affect the investment income Celladon earned on its investments and therefore impacted its cash flows and results of operations.

We do not believe that the combined company's cash and cash equivalents have significant risk of default or illiquidity. While we believe our cash and cash equivalents do not contain excessive risk, we cannot provide absolute assurance that in the future our investments will not be subject to adverse changes in market value. In addition, we maintain significant amounts of cash and cash equivalents at one or more financial institutions that are in excess of federally insured limits.

As of December 31, 2015, all of Celladon's short-term investments had matured and Celladon did not have any investments, nor did it have any outstanding indebtedness for amounts borrowed. Accordingly, a 10%

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change in interest rates from the interest rates on December 31, 2015 would not have had a material effect on its financial condition.

As of December 31, 2015, Celladon had clinical trial agreements denominated in euros. Celladon did not participate in any foreign currency hedging activities and Celladon did not have any other derivative financial instruments. Celladon did not recognize any significant exchange rate losses during the year ended December 31, 2015. A 10% change in the euro-to-dollar exchange rate on December 31, 2015 would not have had a material effect on Celladon's results of operations or financial condition.

Inflation generally affects us by increasing our cost of labor and clinical trial costs. We do not believe that inflation has had a material effect on Celladon's results of operations during the periods presented.

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ITEM 8. Financial Statements and Supplementary Data

Report of Independent Registered Public Accounting Firm

The Board of Directors and Stockholders of
Eiger BioPharmaceuticals, Inc.
(formerly Celladon Corporation)

We have audited the accompanying consolidated balance sheets of Celladon Corporation, as of December 31, 2015 and 2014, and the related consolidated statements of operations and comprehensive loss, preferred stock and stockholders' equity (deficit), and cash flows for each of the three years in the period ended December 31, 2015. These financial statements are the responsibility of the Company's management. Our responsibility is to express an opinion on these financial statements based on our audits.

We conducted our audits in accordance with the standards of the Public Company Accounting Oversight Board (United States). Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the financial statements are free of material misstatement. We were not engaged to perform an audit of the Company's internal control over financial reporting. Our audits included consideration of internal control over financial reporting as a basis for designing audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the Company's internal control over financial reporting. Accordingly, we express no such opinion. An audit also includes examining, on a test basis, evidence supporting the amounts and disclosures in the financial statements, assessing the accounting principles used and significant estimates made by management, and evaluating the overall financial statement presentation. We believe that our audits provide a reasonable basis for our opinion.

In our opinion, the financial statements referred to above present fairly, in all material respects, the consolidated financial position of Celladon Corporation at December 31, 2015 and 2014, and the consolidated results of its operations and its cash flows for each of the three years in the period ended December 31, 2015, in conformity with U.S. generally accepted accounting principles.

/s/ Ernst & Young LLP

San Diego, California
March 30, 2016

Celladon Corporation
Consolidated Balance Sheets
(in thousands, except share and per share data)

	December 31	
	2015	2014
Assets		
Current assets:		
Cash and cash equivalents	\$ 32,777	\$ 14,435
Short-term investments	—	70,513
Prepaid expenses and other assets	1,099	3,135
Total current assets	33,876	88,083
Property and equipment, net	—	763
Other assets	10	264
Total assets	<u>\$ 33,886</u>	<u>\$ 89,110</u>
Liabilities, preferred stock and stockholders' equity		
Current liabilities:		
Accounts payable and accrued expenses	\$ 1,108	\$ 6,534
Accrued restructuring charges	1,201	—
Accrued interest	—	71
Current portion of long-term obligations	—	1
Total current liabilities	2,309	6,606
Long-term obligations, net of discount	—	10,102
Non-current liabilities	24	298
Commitments and contingencies (Note 4)		
Stockholders' equity:		
Preferred stock, \$0.001 par value; authorized shares—10,000,000 at December 31, 2015 and 2014; no shares issued and outstanding	—	—
Common stock, \$0.001 par value; authorized shares—200,000,000 at December 31, 2015 and 2014; issued and outstanding—1,596,953 and 1,566,045 at December 31, 2015 and 2014, respectively	2	2
Additional paid-in capital	222,403	218,549
Accumulated other comprehensive (loss) income	—	(8)
Accumulated deficit	(190,852)	(146,439)
Total stockholders' equity	31,553	72,104
Total liabilities and stockholders' equity	<u>\$ 33,886</u>	<u>\$ 89,110</u>

See accompanying notes.

Celladon Corporation

Consolidated Statements of Operations and Comprehensive Loss
(in thousands, except share and per share data)

	Years Ended December 31,		
	2015	2014	2013
Operating expenses:			
Research and development	\$ 21,959	\$ 22,676	\$ 16,927
General and administrative	12,435	10,342	3,037
Restructuring charges	7,787	—	—
Total operating expenses	42,181	33,018	19,964
Loss from operations	(42,181)	(33,018)	(19,964)
Other income (expense):			
Interest income	65	118	69
Interest expense	(2,302)	(741)	(59)
Other (expense) income	5	(29)	25
Change in fair value of warrant liability	—	(183)	(162)
Consolidated net loss	(44,413)	(33,853)	(20,091)
Net loss attributable to non-controlling interest	—	—	96
Net loss attributable to Celladon Corporation	(44,413)	(33,853)	(19,995)
Change in fair value of non-controlling interest	—	—	(3,105)
Deemed dividend	—	—	(856)
Net loss attributable to common stockholders	<u>\$ (44,413)</u>	<u>\$ (33,853)</u>	<u>\$(23,956)</u>
Other comprehensive loss:			
Unrealized (loss) gain on investments	8	(10)	(7)
Comprehensive loss	<u>\$ (44,405)</u>	<u>\$ (33,863)</u>	<u>\$(20,098)</u>
Net loss per share attributable to common stockholders, basic and diluted	<u>\$ (27.93)</u>	<u>\$ (27.30)</u>	<u>\$(406.41)</u>
Weighted-average shares outstanding, basic and diluted	<u>1,590,211</u>	<u>1,240,240</u>	<u>58,945</u>

See accompanying notes.

Celladon Corporation
Consolidated Statements of Preferred Stock and Stockholders' Equity (Deficit)
(in thousands, except share data)

	Series A-1 Redeemable Convertible Preferred Stock		Convertible Preferred Stock		Special Voting Stock		Common Stock		Additional Paid-in Capital	Accumulated Other Comprehensive Income (Loss)	Accumulated Deficit	Total Stockholders' Equity (Deficit)
	Shares	Amount	Shares	Amount	Shares	Amount	Shares	Amount				
Balance at December 31, 2012	7,761,608	52,274	809,205	5,450	—	1	58,945	—	64,166	9	(92,591)	(28,416)
Stock-based compensation	—	—	—	—	—	—	—	—	1,388	—	—	1,388
Change in fair value of redeemable non-controlling interest	—	—	—	—	—	—	—	—	(3,105)	—	—	(3,105)
Share exchange related to non-controlling interest and special voting stock	714,427	7,824	—	—	—	(1)	—	—	—	—	—	—
Deemed dividend	—	—	—	—	—	—	—	—	(856)	—	—	(856)
Consolidated net loss	—	—	—	—	—	—	—	—	—	—	(20,091)	(20,091)
Net loss attributable to redeemable non-controlling interest	—	—	—	—	—	—	—	—	—	—	96	96
Unrealized loss on investment securities	—	—	—	—	—	—	—	—	—	(7)	—	(7)
Balance at December 31, 2013	8,476,035	\$ 60,098	809,205	\$ 5,450	—	\$ —	58,945	\$ —	\$ 61,593	\$ 2	\$ (112,586)	\$ (50,991)
Impact of initial public offering Initial public offering of common stock, net of \$6,342 in offering costs	—	—	—	—	—	—	421,666	1	44,257	—	—	44,258
Conversion of convertible notes into common stock	—	—	—	—	—	—	9,309	—	1,117	—	—	1,117
Conversion of convertible preferred stock into common stock	(8,476,035)	(60,098)	(809,205)	(5,450)	—	—	743,412	1	65,547	—	—	65,548
Warrant liability reclassification	—	—	—	—	—	—	—	—	1,299	—	—	1,299
Common stock issuance upon exercise of warrants	—	—	—	—	—	—	1,698	—	143	—	—	143
Public offering of common stock, net of \$3,011 of offering costs	—	—	—	—	—	—	306,666	—	40,689	—	—	40,689
Stock-based compensation	—	—	—	—	—	—	—	—	3,319	—	—	3,319
Exercise of stock options	—	—	—	—	—	—	22,681	—	407	—	—	407
Issuance of common stock under employee stock purchase plan	—	—	—	—	—	—	1,668	—	178	—	—	178
Consolidated net loss	—	—	—	—	—	—	—	—	—	—	(33,853)	(33,853)
Unrealized loss on investment securities	—	—	—	—	—	—	—	—	—	(10)	—	(10)
Balance at December 31, 2014	—	\$ —	—	\$ —	—	\$ —	1,566,045	\$ 2	\$ 218,549	\$ (8)	\$ (146,439)	\$ 72,104
Stock-based compensation	—	—	—	—	—	—	—	—	3,028	—	—	3,028
Common stock issuance upon exercise of warrants	—	—	—	—	—	—	2,818	—	—	—	—	—
Exercise of stock options	—	—	—	—	—	—	27,815	—	826	—	—	826
Stock issued upon RSU release	—	—	—	—	—	—	275	—	—	—	—	—
Consolidated net loss	—	—	—	—	—	—	—	—	—	—	(44,413)	(44,413)
Unrealized loss on investment securities	—	—	—	—	—	—	—	—	—	8	—	8

Balance at																			
December 31, 2015	<u>—</u>	<u>\$ —</u>	<u>—</u>	<u>\$ —</u>	<u>—</u>	<u>\$ —</u>	<u>1,596,953</u>	<u>\$ 2</u>	<u>\$ 222,403</u>	<u>\$ —</u>	<u>\$ (190,852)</u>	<u>\$ 31,553</u>							

See accompanying notes.

Celladon Corporation
Consolidated Statements of Cash Flows
(in thousands)

	Years Ended December 31,		
	2015	2014	2013
Cash flows from operating activities			
Consolidated net loss	\$(44,413)	\$(33,853)	\$(20,091)
Adjustments to reconcile net loss to net cash used in operating activities			
Depreciation	504	153	67
Asset impairment	192	—	—
Stock-based compensation	3,028	3,319	1,388
Noncash interest expense	1,807	388	59
Amortization of investment premium	194	393	255
Change in fair value of warrant liability	—	183	162
Loss on disposal of property and equipment	2	1	—
Other items, net	(279)	74	17
Changes in operating assets and liabilities:			
Prepaid expenses and other assets	2,142	(2,860)	104
Accounts payable and accrued expenses	(4,268)	2,935	1,843
Other liabilities	—	8	—
Net cash used in operating activities	(41,091)	(29,259)	(16,196)
Cash flows from investing activities			
Purchases of investment securities	—	(90,659)	(17,860)
Proceeds from maturities of investment securities	70,327	30,210	28,801
Purchases of property and equipment	(235)	(739)	(87)
Proceeds from sale of property and equipment	277	—	—
Net cash provided by (used in) investing activities	70,369	(61,188)	10,854
Cash flows from financing activities			
Proceeds from issuance of common stock	826	95,028	—
Proceeds from issuance of convertible debt	—	—	1,097
Costs paid in connection with common stock offerings	—	(7,661)	(1,693)
Proceeds from borrowing under term loan	—	10,000	—
Costs paid in connection with term loan	(1,750)	(387)	—
Repayment of term loan	(10,000)	(387)	—
Other	(12)	(1)	—
Net cash provided by (used in) financing activities	(10,936)	96,979	(596)
Net increase (decrease) in cash and cash equivalents	18,342	6,532	(5,938)
Cash and cash equivalents, beginning of period	14,435	7,903	13,841
Cash and cash equivalents, end of period	<u>\$ 32,777</u>	<u>\$ 14,435</u>	<u>\$ 7,903</u>
Supplemental disclosure of cash flow information			
Interest paid	<u>\$ 495</u>	<u>\$ 282</u>	<u>\$ —</u>
Supplemental schedule of noncash investing and financing activities			
Share exchange related to non-controlling interest and special voting stock	<u>\$ —</u>	<u>\$ —</u>	<u>\$ 7,824</u>
Deemed dividend	<u>\$ —</u>	<u>\$ —</u>	<u>\$ 856</u>
Accrued purchases of property and equipment	<u>\$ —</u>	<u>\$ 23</u>	<u>\$ 166</u>
Conversion of convertible preferred stock into common stock	<u>\$ —</u>	<u>\$ 65,548</u>	<u>\$ —</u>
Conversion of convertible notes into common stock	<u>\$ —</u>	<u>\$ 1,117</u>	<u>\$ —</u>
Warrant liability reclassification to equity	<u>\$ —</u>	<u>\$ 1,299</u>	<u>\$ —</u>
Capital expenditures funded by capital lease borrowings	<u>\$ —</u>	<u>\$ 12</u>	<u>\$ —</u>

See accompanying notes.

Celladon Corporation

Notes to Consolidated Financial Statements

1. Organization and Summary of Significant Accounting Policies

Organization

On March 22, 2016, Celladon Merger Sub, Inc., a Delaware corporation (“Merger Sub”), a wholly owned subsidiary of Celladon Corporation (“Celladon”), completed its merger (the “Merger”) with and into Eiger BioPharmaceuticals, Inc., a privately held Delaware corporation focused on bringing to market novel product candidates for the treatment of orphan diseases (“Private Eiger”), with Private Eiger surviving the Merger. The Merger was effected pursuant to an Agreement and Plan of Merger and Reorganization (the “Merger Agreement”), dated as of November 18, 2015, by and among Celladon, Private Eiger and Merger Sub. Immediately prior to the Merger, on March 22, 2016, Celladon effected a 1-for-15 reverse stock split on its issued and outstanding common stock. The accompanying financial statements and notes to financial statements give retroactive effect to the reverse stock split for all periods presented. As of December 31, 2015, Celladon had devoted substantially all of its efforts to product development, raising capital and building infrastructure and had not generated revenues from its planned principal operations.

On March 22, 2016, each outstanding share of Private Eiger’s common stock converted into the right to receive approximately 0.0875219 of a share of Celladon’s common stock. In addition, each outstanding option to purchase Private Eiger’s common stock and warrant to purchase Private Eiger’s common stock, prior to March 22, 2016, was converted into an option or warrant to purchase Celladon’s common stock. No fractional shares of Celladon’s common stock were issued in connection with the Merger. Instead, Private Eiger stockholders received cash in lieu of fractional shares of Celladon’s common stock such stockholders would have otherwise been entitled to receive in accordance with the Merger Agreement.

Immediately following the Merger, the company changed its name from “Celladon Corporation” to “Eiger BioPharmaceuticals, Inc.” The combined company following the Merger may be referred to herein as “the combined company,” “Eiger,” or the “Company.”

Except as described in Note 11 “Subsequent Events,” the accompanying consolidated financial statements do not give effect to the Merger. The financial statements have been labeled “Celladon Corporation” for the purposes of this filing, which was the entity name in effect for the historical periods presented.

Prior to the Merger, Celladon Corporation focused on the development of cardiovascular gene therapy. Celladon was incorporated in California on December 21, 2000 (inception) and reincorporated in Delaware in April 2012.

Use of Estimates

Celladon’s consolidated financial statements are prepared in accordance with U.S. generally accepted accounting principles (GAAP). The preparation of Celladon’s consolidated financial statements requires it to make estimates and assumptions that impact the reported amounts of assets, liabilities and expenses and the disclosure of contingent assets and liabilities in Celladon’s consolidated financial statements and accompanying notes. The most significant estimates in Celladon’s consolidated financial statements relate to the fair value of equity awards and clinical trial expense accruals. Although these estimates are based on Celladon’s knowledge of current events and actions it may undertake in the future, actual results may ultimately materially differ from these estimates.

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Principles of Consolidation

On April 27, 2012, Celladon formed a subsidiary, Celladon Europe B.V. (Celladon Europe), a Dutch limited liability company. From its inception to June 6, 2013 the subsidiary was 90% owned by Celladon and from June 6, 2013 to December 29, 2014 the subsidiary was wholly owned by Celladon. Celladon Europe was dissolved on December 30, 2014. The financial statements of Celladon Europe are consolidated with those of the Celladon. All intercompany transactions and balances were eliminated in consolidation. The U.S. dollar was the functional currency of Celladon Europe. Celladon remeasured Celladon Europe's assets and liabilities related to monetary assets and liabilities to the U.S. dollar and recorded the net gains or losses resulting from remeasurement in other income (expense) in the consolidated statements of operations and comprehensive loss. During all periods presented, Celladon did not record any material gains or losses from remeasurement.

Segment Reporting

Operating segments are identified as components of an enterprise about which separate discrete financial information is available for evaluation by the chief operating decision-maker in making decisions regarding resource allocation and assessing performance. The Company views its operations and manages its business in one operating segment.

Cash and Cash Equivalents

Cash and cash equivalents consists primarily of readily available checking, money market accounts and money market funds. Celladon considers all highly liquid investments with an original maturity of three months or less at the date of purchase to be cash equivalents.

Investment Securities

Investment securities primarily consist of investment grade corporate debt securities. Celladon classifies all investment securities as available-for-sale. Investments with maturity dates greater than 12 months from the end of each reporting period are classified as long-term. Investment securities are carried at fair value, with the unrealized gains and losses reported as a component of other comprehensive income (loss) in stockholders' equity (deficit) until realized. Realized gains and losses from the sale of investment securities, if any, are determined on a specific identification basis. A decline in the market value of any investment security below cost that is determined to be other than temporary will result in an impairment charge to earnings and a new cost basis for the security is established. No such impairment charges were recorded for any period presented. As of December 31, 2014, none of the investment securities had been in an unrealized loss position for more than 12 months. Premiums and discounts are amortized or accreted over the life of the related security as an adjustment to yield using the straight-line method and are included in interest income. Interest income is recognized when earned. During 2015 Celladon's investment securities matured and Celladon held the proceeds as cash equivalents. As of December 31, 2015, Celladon had no investment securities.

The following table sets forth the composition of Celladon's investment securities (in thousands):

As of December 31, 2014	Maturity in Years	Amortized Cost	Unrealized		Fair Value
			Gains	Losses	
Corporate debt securities	Less than 1 year	<u>\$70,521</u>	<u>\$—</u>	<u>\$ (8)</u>	<u>\$ 70,513</u>

Concentration of Credit Risk

Financial instruments, which potentially subject Celladon to significant concentration of credit risk, consist primarily of cash and cash equivalents and historically, investment securities. Celladon has established guidelines regarding diversification of investments and their maturities, which are designed to maintain principal and

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maximize liquidity. Celladon maintains deposits in federally insured financial institutions in excess of federally insured limits. Celladon has not experienced any losses in such accounts and management believes that Celladon is not exposed to significant credit risk due to the financial position of the depository institutions in which those deposits are held.

Property and Equipment

Property and equipment are recorded at cost and depreciated using the straight-line method over the estimated useful lives of the assets (generally three to five years) and generally consist of furniture and fixtures, computers, and office equipment. Repairs and maintenance costs are charged to expense as incurred.

Impairment of Long-Lived Assets

Long-lived assets consist primarily of property and equipment. An impairment loss is recorded if and when events and circumstances indicate that assets might be impaired and the undiscounted cash flows estimated to be generated by those assets are less than the carrying amount of those assets. Celladon recorded impairment losses following the negative results of its Cupid 2 trial (see Note 9).

Clinical Trial Accruals and Prepayments

As part of the process of preparing its financial statements, Celladon is required to estimate its expenses resulting from its obligations under contracts with vendors and consultants and clinical site agreements in connection with conducting clinical trials. The financial terms of these contracts are subject to negotiations which vary from contract to contract and may result in payment flows that do not match the periods over which materials or services are provided to us under such contracts. Celladon's objective is to reflect the appropriate trial expenses in its financial statements by matching those expenses with the period in which services and efforts are expended. Celladon accounts for these expenses according to the progress of the trial as measured by patient progression and the timing of various aspects of the trial. Celladon determines accrual and prepayment estimates through financial models taking into account discussion with applicable personnel and outside service providers as to the progress or state of consummation of trials, or the services completed. During the course of a clinical trial, Celladon adjusts its rate of clinical expense recognition if actual results differ from its estimates. Celladon makes estimates of its accrued and prepaid expenses as of each balance sheet date in its financial statements based on the facts and circumstances known at that time. Although Celladon does not expect its estimates to be materially different from amounts actually incurred, its understanding of the status and timing of services performed relative to the actual status and timing of services performed may vary and may result in us reporting amounts that are too high or too low for any particular period. Through December 31, 2015, there have been no material adjustments to Celladon's prior period estimates of accrued and prepaid expenses for clinical trials. Celladon's clinical trial accrual is dependent upon the timely and accurate reporting of contract research organizations and other third-party vendors.

Deferred Rent

Deferred rent consists of the difference between cash payments and the recognition of rent expense on a straight-line basis for the facility Celladon occupies. Celladon's lease for its facility provides for fixed increases in minimum annual rental payments. The total amount of rental payments due over the lease term is being charged to rent expense ratably over the life of the lease.

Research and Development Costs

Research and development expenses consist primarily of salaries and related overhead expenses; fees paid to consultants and contract research organizations; developing manufacturing capabilities; costs related to acquiring and manufacturing clinical trial materials; costs related to compliance with regulatory requirements; and maintenance and license payments related to licensed product candidates and technologies. All research and development costs are expensed as incurred.

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Patent Costs

Costs related to filing and pursuing patent applications are recorded as general and administrative expense and expensed as incurred since recoverability of such expenditures is uncertain.

Stock-Based Compensation

Stock-based compensation expense represents the cost of the grant date fair value of employee stock option grants and stock purchases under the Employee Stock Purchase Plan (“ESPP”) recognized over the requisite service period of the awards (usually the vesting period) on a straight-line basis, net of estimated forfeitures. Celladon estimates the fair value of the awards using the Black-Scholes option pricing model.

Celladon accounts for stock options granted to non-employees using the fair value approach. These option grants are subject to periodic revaluation over their vesting terms.

Income Taxes

Celladon accounts for income taxes under the asset and liability method, which requires the recognition of deferred tax assets and liabilities for the expected future tax consequences of events that have been included in the financial statements. Under this method, deferred tax assets and liabilities are determined on the basis of the differences between the financial statements and tax basis of assets and liabilities using enacted tax rates in effect for the year in which the differences are expected to reverse. The effect of a change in tax rates on deferred tax assets and liabilities is recognized in income in the period that includes the enactment date.

Celladon recognizes net deferred tax assets to the extent that management believes these assets are more likely than not to be realized. In making such a determination, management considers all available positive and negative evidence, including future reversals of existing taxable temporary differences, projected future taxable income, tax-planning strategies, and results of recent operations. If management determines that Celladon would be able to realize its deferred tax assets in the future in excess of their net recorded amount, management would make an adjustment to the deferred tax asset valuation allowance, which would reduce the provision for income taxes.

Celladon records uncertain tax positions on the basis of a two-step process whereby (1) management determines whether it is more likely than not that the tax positions will be sustained on the basis of the technical merits of the position and (2) for those tax positions that meet the more-likely-than-not recognition threshold, management recognizes the largest amount of tax benefit that is more than 50% likely to be realized upon ultimate settlement with the related tax authority. Celladon recognizes interest and penalties related to unrecognized tax benefits within income tax expense. Any accrued interest and penalties are included within the related tax liability.

Comprehensive Loss

Comprehensive loss is defined as a change in equity during a period from transactions and other events and circumstances from non-owner sources. Celladon’s only component of other comprehensive loss is unrealized gains (losses) on investment securities. Comprehensive loss has been reflected in the consolidated statements of operations and comprehensive loss and as a separate component of the statements of stockholders’ deficit for all periods presented.

Net Loss Per Share Attributable to Common Stockholders

Basic net loss per share attributable to common stockholders is calculated by dividing the net loss attributable to common stockholders by the weighted-average number of common shares outstanding for the period, without consideration for common stock equivalents. Diluted net loss per share attributable to common

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stockholders is computed by dividing the net loss attributable to common stockholders by the weighted-average number of common share equivalents outstanding for the period determined using the treasury-stock method. Dilutive common stock equivalents are comprised of convertible preferred stock and rights to acquire convertible preferred stock (non-controlling interest), warrants for the purchase of common stock and options outstanding under Celladon's stock option plans. For all periods presented, there is no difference in the number of shares used to calculate basic and diluted shares outstanding due to Celladon's net loss position.

Potentially dilutive securities not included in the calculation of diluted net loss per share attributable to common stockholders because to do so would be anti-dilutive are as follows (in common stock equivalent shares):

	Years Ended December 31,	
	2015	2014
Warrants for common stock	10,182	13,756
Common stock options	73,197	160,575
	<u>83,379</u>	<u>174,331</u>

Recent Accounting Pronouncements

In April 2015, the Financial Accounting Standards Board (the "FASB") issued Accounting Standards Update ("ASU") No. 2015-03, Interest—Imputation of Interest (Subtopic 835-30): Simplifying the Presentation of Debt Issuance Costs. The amendments in this ASU require that debt issuance costs related to a recognized debt liability be presented in the balance sheet as a direct deduction from the carrying amount of that debt liability, consistent with debt discounts. The amendments in this ASU are effective for financial statements issued for fiscal years beginning after December 15, 2015, and interim periods within those fiscal years. Early adoption of the amendments is permitted. The new guidance shall be applied on a retrospective basis, wherein the balance sheet of each individual period presented should be adjusted to reflect the period-specific effects of applying the new guidance. Celladon is currently evaluating the impact of the adoption of this standard on its consolidated financial statements.

In August 2014, the FASB issued ASU 2014-15, which defined management's responsibility to evaluate whether there is substantial doubt about an entity's ability to continue as a going concern and to provide related disclosure. ASU 2014-15 defined the term substantial doubt and requires an assessment for a period of one year after the date of the issuance of the financial statements. It requires certain disclosures when substantial doubt is alleviated as a result of consideration of management's plans and requires an express statement and other disclosures when substantial doubt is not alleviated. The guidance becomes effective for reporting periods beginning after December 15, 2016, with early adoption permitted. Celladon does not believe that the adoption of this guidance will have a material impact on its consolidated financial statements.

2. Balance Sheet Details

Prepaid expenses and other assets consist of the following (in thousands):

	As of December 31,	
	2015	2014
Prepaid clinical expenses	\$ 583	\$ —
Prepaid other expenses	290	756
Commercial manufacturing costs	—	1,751
Other receivables	226	628
	<u>\$1,099</u>	<u>\$3,135</u>

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Property and equipment consist of the following (in thousands):

	As of December 31,	
	2015	2014
Office furniture and other equipment	\$ 13	\$ 881
Leasehold improvements	—	246
Accumulated depreciation	(13)	(364)
	<u>\$ —</u>	<u>\$ 763</u>

Accounts payable and accrued expenses consist of the following (in thousands):

	As of December 31,	
	2015	2014
Accounts payable	\$ 479	\$3,293
Accrued compensation	52	1,909
Accrued other	557	596
Current portion of deferred rent	20	5
	<u>\$1,108</u>	<u>\$5,803</u>

3. Fair Value Measurements

Celladon's financial instruments primarily consist of cash and cash equivalents, accounts payable and accrued liabilities and have historically included investment securities. The carrying value of these financial instruments generally approximates fair value due to their short-term nature. Investment securities are recorded at fair value.

The accounting guidance defines fair value, establishes a consistent framework for measuring fair value and expands disclosure for each major asset and liability category measured at fair value on either a recurring or nonrecurring basis. Fair value is defined as an exit price, representing the amount that would be received to sell an asset or paid to transfer a liability in an orderly transaction between market participants. As such, fair value is a market-based measurement that should be determined based on assumptions that market participants would use in pricing an asset or liability. As a basis for considering such assumptions, the accounting guidance establishes a three-tier fair value hierarchy, which prioritizes the inputs used in measuring fair value as follows:

Level 1: Observable inputs such as quoted prices in active markets;

Level 2: Inputs, other than the quoted prices in active markets, that are observable either directly or indirectly; and

Level 3: Unobservable inputs in which there is little or no market data, which require the reporting entity to develop its own assumptions

As of December 31, 2015 and 2014, cash and cash equivalents consist primarily of bank deposits with third-party financial institutions and highly liquid money market securities with original maturities at date of purchase of 90 days or less and are stated at cost which approximate fair value and are classified within the Level 1 designation discussed above. Marketable securities are recorded at fair value, defined as the exit price in the principal market in which Celladon would transact, representing the amount that would be received to sell an asset or paid to transfer a liability in an orderly transaction between market participants. Level 2 securities are valued using quoted market prices for similar instruments, non-binding market prices that are corroborated by observable market data, or discounted cash flow techniques and include Celladon's investments in corporate debt securities and commercial paper. Financial liabilities that were measured or disclosed at fair value on a recurring basis, and were classified within the Level 3 designation, included the warrant liability and convertible notes

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prior to their conversion to equity upon Celladon's initial public offering in February 2014. None of Celladon's non-financial assets and liabilities are recorded at fair value on a non-recurring basis. No transfers between levels have occurred during the periods presented.

Below is a summary of assets measured at fair value (in thousands):

	As of December 31, 2015	Fair Value Measurements at Reporting Date Using		
		Quoted Prices in Active Markets for Identical Assets (Level 1)	Significant Other Observable Inputs (Level 2)	Significant Unobservable Inputs (Level 3)
Assets:				
Money market funds (cash equivalent)	\$ 31,042	\$ 31,042	\$ —	\$ —

	As of December 31, 2014	Fair Value Measurements at Reporting Date Using		
		Quoted Prices in Active Markets for Identical Assets (Level 1)	Significant Other Observable Inputs (Level 2)	Significant Unobservable Inputs (Level 3)
Assets:				
Money market funds (cash equivalent)	\$ 11,330	\$ 11,330	\$ —	\$ —
Corporate debt securities	72,514	2,001	70,513	—
Total assets measured at fair value	\$ 83,844	\$ 13,331	\$ 70,513	\$ —

Celladon determined the fair value of the convertible notes utilizing an estimated cost of debt for comparable venture backed and mezzanine financings.

The fair value per share of Celladon's underlying Series A-1 preferred stock was used to determine the fair value of the redeemable non-controlling interest and the warrant liability. As of February 4, 2014, December 31, 2013, October 15, 2013 (issuance date of Series A-1 warrants), June 6, 2013 (exchange date of exchangeable shares) and December 31, 2012, the fair value of the Series A-1 preferred stock was \$9.60, \$9.60, \$13.65, \$10.95 and \$6.74, respectively. The fair value of the Series A-1 preferred stock was determined using either an option pricing model, a hybrid option pricing and probability weighted expected return model or, in the case of the February 4, 2014 and December 31, 2013 values, derived from Celladon's IPO price. The key inputs into the models included the probability and timing of expected liquidity event dates, discount rates and the selection of appropriate market comparable transactions and multiples to apply to Celladon's various historical and forecasted operational metrics.

In addition to the fair value of the underlying Series A-1 preferred stock, the following assumptions were used in the Black-Scholes option pricing model to determine the fair value of the preferred stock warrant liability:

	October 15, 2013	December 31, 2013	February 4, 2014
Risk-free interest rate	1.37%	1.58%	1.58%
Expected volatility	79%	82%	82%
Expected term (in years)	5.0	4.8	4.7
Expected dividend yield	0.0%	0.0%	0.0%

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The following table provides a reconciliation of all liabilities measured at fair value using Level 3 significant unobservable inputs (in thousands):

	Redeemable Non-Controlling Interest	Convertible Notes	Warrant Liability
Balance at December 31, 2012	\$ 4,814	—	—
Issuance of warrants in connection with note and warrant purchase agreement	—	—	954
Issuance of debt	—	999	—
Net loss attributable to redeemable non-controlling interest	(96)	—	—
Changes in fair value	3,105	45	162
Exchange of redeemable non-controlling interest for Series A-1 preferred stock	(7,823)	—	—
Balance at December 31, 2013	—	1,044	1,116
Changes in fair value	—	53	183
Reclassification to equity upon initial public offering	—	—	(1,299)
Conversion to common stock upon initial public offering	—	(1,097)	—
Balance at December 31, 2014	\$ —	\$ —	\$ —

4. Commitments and Contingencies

Sublicense Agreement and Amended and Restated License Agreement with AmpliPhi

Sublicense Agreement

In June 2012, Celladon entered into a sublicense agreement (the AmpliPhi Sublicense) with AmpliPhi Biosciences Corporation (AmpliPhi), pursuant to which AmpliPhi sublicensed to Celladon certain rights under a separate agreement which AmpliPhi entered into in 2009 with the Trustees of University of Pennsylvania (UPenn). Under the terms of the AmpliPhi Sublicense, Celladon obtained an exclusive, worldwide sublicense from AmpliPhi under certain UPenn patents related to AAV1 vectors for the development, manufacture, use and sale of companion diagnostics to MYDICAR. In addition, Celladon is required to use commercially reasonable efforts to meet certain developmental, regulatory and commercial milestones with respect to companion diagnostics under the agreement. Celladon may not be in compliance with these milestone requirements. In consideration for the sublicense granted to Celladon under the agreement, Celladon paid to AmpliPhi a sublicense initiation fee of \$310,000, and Celladon is obligated to pay to AmpliPhi an annual sublicense maintenance fee of \$310,000. Celladon is also required to pay to AmpliPhi a low single-digit percentage royalty based on net sales of any companion diagnostic covered by a licensed patent sold by Celladon, its affiliates or its sublicensees. Celladon's royalty obligations continue on a companion diagnostic-by-companion diagnostic and country-by-country basis until the expiration of the last-to-expire valid claim in a licensed patent covering the applicable companion diagnostic in such country. Finally, Celladon is obligated to pay to AmpliPhi all royalty and milestone payments that become due and payable by AmpliPhi to UPenn under AmpliPhi's agreement with UPenn as a result of Celladon's exercise of the sublicense granted under Celladon's agreement with AmpliPhi, including a low single-digit tiered percentage royalty on net sales of any companion diagnostic sold by Celladon, its affiliates or its sublicensees, which royalty is separate from and in addition to the royalty payable to AmpliPhi described above, and up to an aggregate of \$850,000 in potential milestone payments per product covered by the licensed patents.

Celladon may unilaterally terminate the agreement upon 30 days' written notice to AmpliPhi. Absent early termination, the agreement will automatically terminate upon the expiration of the last-to-expire licensed patent, which is expected to be in 2019.

Celladon has recorded research and development expense related to sublicense fees under the agreement of \$0.3 million for each of the years ended December 31, 2015, 2014 and 2013. Through December 31, 2015, no milestone obligations were incurred under the agreement.

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Amended and Restated License Agreement

Celladon entered into an amended and restated license agreement with AmpliPhi concurrently with the AmpliPhi Sublicense that both amended the terms of the license agreement which Celladon entered into with AmpliPhi in 2009 and terminated its manufacturing agreement with AmpliPhi which Celladon entered into in 2009. Under the agreement, Celladon obtained an exclusive, worldwide license under certain patents and know-how related to AmpliPhi's AAV vector and manufacturing technology for the development, manufacture, use and sale of MYDICAR. In addition, Celladon has agreed to use commercially reasonable efforts to meet certain diligence milestones with respect to the development and commercialization of at least one product covered by the UPenn patent rights licensed to AmpliPhi by UPenn under Celladon's agreement with UPenn. Following the decision to not pursue additional previously planned development activities with MYDICAR and its companion diagnostic, Celladon may not currently be in compliance with these milestone requirements.

During the term of the agreement, Celladon is not obligated to make annual license or maintenance payments, but is obligated to pay to AmpliPhi all royalty and milestone payments that become due and payable by AmpliPhi to UPenn under AmpliPhi's agreement with UPenn as a result of Celladon's exercise of the sublicense granted under Celladon's agreement with AmpliPhi. This includes a low single-digit tiered percentage royalty on net sales of MYDICAR and any other product covered by the licensed patents sold by Celladon, its affiliates or its sublicensees, and up to \$850,000 in milestone payments upon the achievement of certain developmental and regulatory milestones related to MYDICAR and any other product covered by the licensed patents. Through December 31, 2015, no milestone obligations were incurred under the agreement. The agreement does not provide either party with termination rights and does not have a provision for expiration or automatic termination.

Exclusive Patent License with the Regents of the University of Minnesota

In May 2009, Celladon entered into an exclusive patent license agreement with the Regents of the University of Minnesota (UMinn) under which it obtained an exclusive license to UMinn's joint ownership interest in a patent application related to screening technology for isolation of small molecule modulators of SERCA enzymes. The agreement did not encompass a manufacturing agreement. Celladon suspended further development of the small molecule program in the first half of 2015 and, after review of its strategic alternatives, cancelled the patent license agreement in September 2015. Celladon has recorded research and development expense related to license and annual maintenance fees under the agreement of \$0.1 million for each of the years ended December 31, 2015, 2014 and 2013. Through December 31, 2015, no milestone obligations were incurred under the agreement.

Material Transfer and Exclusivity Agreement

In February 2014, Celladon and Les Laboratoires Servier (Servier) entered into a material transfer and exclusivity agreement, pursuant to which Celladon agreed to transfer to Servier samples of certain proprietary compounds from Celladon's small molecule SERCA2b modulator program and granted to Servier a non-exclusive, non-sublicensable, royalty-free license to conduct certain studies of the samples for the purpose of evaluating Servier's interest in negotiating a potential license and research collaboration agreement with Celladon relating to small molecule SERCA2b modulators (Compounds), for the treatment of type 2 diabetes and other metabolic diseases. In 2015 Celladon concluded certain pre-clinical studies in coordination with Servier and the evaluation period has expired.

License Agreement with Enterprise

On July 18, 2014, Celladon and Enterprise Partners Management, LLC (Enterprise), an affiliate of Enterprise Partners Venture Capital, entered into an Assignment and License Agreement (the Enterprise License Agreement), pursuant to which Enterprise granted to Celladon an exclusive, worldwide license and the

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assignment of patents held by Enterprise relating to certain gene therapy applications of the membrane-bound form of the Stem Cell Factor gene (mSCF) for treatment of cardiac ischemia. Celladon has the right to grant sublicenses to third parties under the Enterprise License Agreement. Entities affiliated with Enterprise beneficially owned more than 10% of Celladon's stock as of the date the Enterprise License Agreement was executed.

In consideration for the rights granted to Celladon under the Enterprise License Agreement, Celladon paid an upfront fee to Enterprise of \$160,000. Celladon is also obligated to pay to Enterprise a milestone payment in the amount of \$1,000,000 upon the grant to Celladon, a Company affiliate or a Company sublicensee of the first regulatory approval in the United States of a product that is covered by the licensed patents. In addition, Celladon is required to pay to Enterprise a 2% royalty on net sales of products sold by Celladon, Company affiliates and Company sublicensees that are covered by the licensed patents. Celladon's royalty obligations continue on a product-by-product and country-by-country basis until the expiration of the last-to-expire valid claim in the licensed patents covering a licensed product in such country.

Celladon may unilaterally terminate the Enterprise License Agreement upon written notice to Enterprise. Enterprise may terminate the agreement in the event of Celladon's material breach of the Enterprise License Agreement if such breach remains uncured for 90 days following receipt of written notice of such breach. Absent early termination, the Enterprise License Agreement will automatically terminate upon the expiration of the last-to-expire of the licensed patents containing a valid claim.

Other License Agreements

Celladon has entered into various license agreements pursuant to which Celladon acquired certain intellectual property. Pursuant to each agreement Celladon paid a license fee and reimbursed historical patent costs. Additionally, under each agreement, Celladon may be required to pay annual maintenance fees, royalties, milestone payments and sublicensing fees. Each of the license agreements is generally cancelable by Celladon, given appropriate prior written notice. Celladon cancelled certain license agreements following the CUPID 2 clinical trial results in April 2015 (see Note 9). Minimum annual payments to maintain these other cancelable licenses total an aggregate of approximately \$0.1 million and potential future milestone payments total an aggregate of approximately \$0.6 million. Celladon has recorded research and development expense related to license and annual maintenance fees under the agreements of \$0.2 million for each of the years ended December 31, 2015, 2014 and 2013.

Through December 31, 2015, Celladon has recorded research and development expense of \$0.1 million related to milestone obligations incurred under the agreements.

Leases

Celladon leases office space in San Diego, California under a long-term operating lease that expires in October 2017 and a short-term operating lease that expires in March 2016. Celladon's cost of the long-term operating lease is partially offset by sublease rental receipts. In September 2015, in light of the scale-down of certain operations, Celladon terminated a sublease agreement for office space effective November 13, 2015, as amended, and paid an early termination fee of approximately \$1.0 million. The subleased office space was in San Diego, California and the sublease was originally scheduled to expire in September 2021. In the third quarter of 2015 Celladon also terminated its Seattle, Washington leases and paid an early termination fee of \$0.2 million. Rent expense was \$0.2 million, \$0.3 million and \$0.1 million for the years ended December 31, 2015, 2014 and 2013, respectively. Rent expense in 2015 included \$0.3 million for the acceleration of deferred rent due to the early termination of the sublease agreements.

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The future minimum annual rental commitments under the lease obligations and sublease rental receipts at December 31, 2015 are as follows (in thousands):

	Lease Obligations	Sublease Rental Receipts	Total
Year ending December 31:			
2016	125	(77)	48
2017	84	(67)	17
Thereafter	—	—	—
Total	<u>\$ 209</u>	<u>\$ (144)</u>	<u>\$ 65</u>

5. Long-Term Obligations

Hercules Loan Agreement

On July 31, 2014, Celladon entered into a Loan and Security Agreement (the Loan Agreement) with Hercules Technology III, L.P. and Hercules Technology Growth Capital, Inc. (as agent and as a lender, and together with Hercules Technology III, L.P., the Lenders) under which up to \$25.0 million was available for Celladon to borrow in two tranches (the Loan).

Celladon borrowed the first tranche of \$10.0 million on August 1, 2014. The Loan accrued interest at a rate equal to the greater of either (i) 8.25% plus the prime rate as reported from time to time in The Wall Street Journal minus 5.25%, and (ii) 8.25%. Contractual payments under the Loan Agreement were interest only until August 1, 2015 followed by equal monthly payments of principal and interest, through the scheduled maturity date on February 1, 2018. In addition, a final payment equal to \$1,750,000 was due at such time as the Loan was prepaid or became due and payable in full as specified in the Loan Agreement.

The second tranche of up to \$15.0 million was available to be drawn through June 30, 2015, but only if Celladon provided the Lenders with notice that data from Celladon's Phase 2b clinical trial for MYDICAR supported the continued development of MYDICAR for its Breakthrough Therapy designation to either a Phase 3 clinical trial or for registration for approval, as reasonably determined by Celladon's senior management and board of directors (the Milestone). In April 2015, Celladon's senior management and board of directors determined that Celladon did not achieve the Milestone (see Note 9). Accordingly, Celladon could not draw down the second tranche of \$15.0 million.

In June 2015 Celladon announced it would prepay the outstanding amounts due under the Loan Agreement and on August 3, 2015, Celladon paid the Lenders (i) the \$10,000,000 outstanding principal balance, (ii) \$75,625 in accrued and unpaid interest, and (iii) an end of term charge of \$1,750,000, for a total payment of \$11,825,625. Upon the prepayment of outstanding amounts on August 3, 2015, Celladon's obligations, covenants, debts and liabilities under the Loan Agreement were satisfied in full and the Lender's commitments to extend further credit to Celladon were terminated.

Interest Expense

Interest expense for the years ended December 31, 2015, 2014 and 2013 was \$2.3 million, \$0.7 million and \$0.1 million, respectively. Interest expense in 2015 and 2014 related mainly to the Hercules Loan Agreement and interest expense in prior years related mainly to convertible debt outstanding in those periods. Interest expense in 2015 included an additional \$1.2 million for the acceleration of lender issuance costs, third party fees and end of term payment due to the prepayment in full of the amounts outstanding under the Hercules agreement in 2015.

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6. Stockholders' Equity (Deficit)

Common Stock and Common Stock Warrants

In February 2014, Celladon completed its initial public offering in which it sold 421,666 shares of common stock at a public offering price of \$120.00 per share. Celladon received net proceeds of approximately \$44.3 million, after deducting underwriting discounts, commissions and offering-related transaction costs of \$6.3 million.

In August 2014, Celladon completed an underwritten public offering in which it sold 306,666 shares of common stock at a public offering price of \$142.50 per share. Celladon received net proceeds of approximately \$43.7 million, after deducting underwriting discounts, commissions and offering-related transaction costs of \$3.0 million.

Fully exercisable warrants outstanding for the purchase of common stock aggregated 10,182 and 13,756 as of December 31, 2015 and 2014, respectively. The warrants have an exercise price of \$84.15 and expire in October 2018.

Stock Options

Options granted under Celladon's equity incentive plans expire no more than 10 years from the date of grant and generally vest and become exercisable over a period not to exceed four years, as determined by Celladon's board of directors. Recipients of stock options are eligible to purchase shares of Celladon's common stock at an exercise price equal to no less than the estimated fair market value of such stock on the date of grant.

Prior Plans

In December 2001, Celladon adopted its 2001 Stock Option Plan (the "2001 Plan") and in January 2012 adopted its 2012 Equity Incentive Plan (the "2012 Plan," and together with the 2001 Plan, the "Prior Plans"). The Prior Plans terminated prior to 2015 and no further shares may be granted under the Prior Plans.

2013 Equity Incentive Plan

The 2013 Equity Incentive Plan became effective in February 2014. Under the 2013 Equity Incentive Plan, Celladon may grant stock options, stock appreciation rights, restricted stock, restricted stock units ("RSUs"), performance-based stock awards and other awards to individuals who are then employees, officers, non-employee directors or consultants of Celladon and its affiliates. Additionally, the 2013 Equity Incentive Plan provides for the grant of performance cash awards. The number of shares of common stock reserved for issuance under the 2013 Equity Incentive Plan will automatically increase on January 1 of each year continuing through and including January 1, 2023 by 5% of the total number of shares of Celladon's capital stock outstanding on December 31 of the preceding calendar year, or a lesser number of shares determined by Celladon's board of directors.

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A summary of Celladon's stock option activity under the Prior Plans and 2013 Plan is as follows:

	<u>Options</u>	<u>Weighted-Average Exercise Price Per Share</u>	<u>Weighted-Average Remaining Contractual Term</u>	<u>Aggregate Intrinsic Value (in 000's)</u>
Outstanding at December 31, 2014	160,575	\$ 107.70	8.53	\$ 31,031
Granted	88,413	287.70		
Exercised	(27,815)	29.70		
Canceled	(147,976)	178.80		
Outstanding at December 31, 2015	<u>73,197</u>	\$ 210.90	4.16	\$ 10
Options exercisable at December 31, 2015	<u>55,163</u>	\$ 205.65	8.42	\$ 10
Options exercisable, vested and expected to vest at December 31, 2015	<u>73,197</u>	\$ 210.90	4.16	\$ 10

The weighted-average grant date fair value of employee options granted during the years ended December 31, 2015, 2014 and 2013 was \$141.45, \$110.40 and \$109.05 per share, respectively. The aggregate intrinsic value of options exercised during the years ended December 31, 2015 and 2014 was approximately \$6.4 million and \$3.9 million, respectively. There were no options exercised in the years prior to Celladon's initial public offering in 2014.

Celladon issued one nominal grant of RSUs in 2015. The aggregate expense recorded related to the RSUs for the year ended December 31, 2015 was less than \$50,000.

2013 Employee Stock Purchase Plan

The 2013 Equity Stock Purchase Plan ("ESPP") became effective in January 2014. The number of shares of common stock reserved for issuance will automatically increase on January 1 of each calendar year through January 1, 2023 by the least of (1) 1% of the total number of shares of Celladon's common stock outstanding on December 31 of the preceding calendar year, (2) 25,620 shares, or (3) a number determined by Celladon's board of directors that is less than (1) and (2). During the years ended December 31, 2015 and 2014, we recorded stock-based compensation expense of approximately \$0.2 million and \$0.1 million, respectively, related to the ESPP.

Stock-Based Compensation Expense

The weighted-average assumptions used in the Black-Scholes option pricing model to determine the fair value of the employee stock option grants were as follows:

	<u>As of December 31,</u>		
	<u>2015</u>	<u>2014</u>	<u>2013</u>
Risk-free interest rate	1.54%	1.90%	1.62%
Expected volatility	72%	80%	79%
Expected term (in years)	5.7	6.0	5.6
Expected dividend yield	0.0%	0.0%	0.0%

Risk-free interest rate. Celladon bases the risk-free interest rate assumption on observed interest rates appropriate for the expected term of the stock option grants.

Expected volatility. The expected volatility assumption is based on volatilities of a peer group of similar companies whose share prices are publicly available. The peer group was developed based on companies in the biotechnology industry.

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Expected term. The expected term represents the period of time that options are expected to be outstanding. Because Celladon does not have historical exercise behavior, it determines the expected life assumption using the simplified method, which is an average of the contractual term of the option and its vesting period.

Expected dividend yield. Celladon bases the expected dividend yield assumption on the fact that it has never paid cash dividends and has no present intention to pay cash dividends.

The allocation of stock-based compensation for all equity awards is as follows (in thousands):

	As of December 31,		
	2015	2014	2013
Research and development	\$ 928	\$1,712	\$1,264
General and administrative	2,100	1,607	124
	<u>\$3,028</u>	<u>\$3,319</u>	<u>\$1,388</u>

As of December 31, 2015 the unrecognized compensation cost related to outstanding employee options was \$2.4 million and is expected to be recognized as expense over approximately 2.6 years.

Common Stock Reserved for Future Issuance

Common stock reserved for future issuance as of December 31, 2015 and 2014 is as follows:

	December 31,	
	2015	2014
Granted and outstanding under the Plans	73,197	160,575
Available for grant under the 2013 Plan	157,521	19,656
Available for issuance under Employee Stock Purchase Plan	25,041	9,380
Common stock warrants issued and outstanding	10,182	13,756
	<u>265,941</u>	<u>203,367</u>

7. Income Taxes

The following is a reconciliation of the expected statutory federal income tax provision to the actual income tax provision (in thousands):

	December 31,		
	2015	2014	2013
Tax computed at federal statutory rate	\$(15,101)	\$(11,510)	\$ (6,831)
State income tax, net of federal benefit	—	(1,517)	(987)
Non-deductible interest	—	20	20
Other permanent items	(51)	1,676	756
Research credits	(513)	(557)	(728)
Change in state rate	895	—	—
Remove (restore) DTA for NOL and Credits – IRC 382	—	—	(12,666)
Uncertain tax position	2,717	(1,125)	859
Change in valuation allowance	12,053	13,013	19,577
Provision (benefit) for income taxes	<u>\$ —</u>	<u>\$ —</u>	<u>\$ —</u>

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The components of Celladon's deferred tax assets are summarized as follows (in thousands):

	December 31,	
	2015	2014
Deferred tax assets:		
Net operating loss carryforwards	\$ 38,605	\$ 31,484
Research credits	2,034	1,649
Capitalized R&D	10,663	5,410
Other	1,343	2,049
Deferred tax assets	52,645	40,592
Valuation allowance	(52,645)	(40,592)
Net deferred tax assets	<u>\$ —</u>	<u>\$ —</u>

Celladon has established a valuation allowance for all deferred tax assets (DTA) including those for new operating loss and tax credit carryforwards. A valuation allowance of approximately \$52.6 million of which approximately \$12.1 million relates to 2015, has been recognized to offset the deferred tax assets, as realization of such assets is uncertain.

At December 31, 2015, Celladon had federal and California net operating loss (NOL) carryforwards of approximately \$114.0 million and \$78.2 million, respectively. The federal NOL carryforwards will begin to expire in 2027 unless previously utilized, and the state NOL carryforwards have already begun to expire, and will continue to do so, unless utilized. At December 31, 2015, Celladon had federal and state research tax credits each of \$1.8 million and \$1.4 million, respectively. The federal research tax credits begin to expire in 2032 unless previously utilized. The California research credit will carry forward indefinitely until utilized.

At December 31, 2015, approximately \$5.9 million of the federal and \$2.0 million of the California net operating loss carryforwards relate to stock option exercises, the tax effect of which will result in an increase to additional-paid-in-capital and a decrease in income taxes payable at the time when the tax loss carryforwards are utilized.

Utilization of the NOL and research tax credit carryforwards may be subject to a substantial annual limitation due to ownership change limitations that have occurred or that could occur in the future, as required by Section 382 of the Code, as well as similar state and foreign provisions. These ownership changes may limit the amount of NOL and research tax credit carryforwards that can be utilized annually to offset future taxable income and tax, respectively. In general, an "ownership change" as defined by Section 382 of the Code results from a transaction or series of transactions over a three-year period resulting in an ownership change of more than 50 percentage points of the outstanding stock of a company by certain stockholders or public groups.

Celladon completed a study to assess whether an ownership change, as defined by Section 382 of the Code, had occurred from Celladon's formation through December 31, 2015. Based upon this study, Celladon determined that several ownership changes had occurred. Accordingly, Celladon has reduced its deferred tax assets related to the federal and state NOL carryforwards and the federal research tax credit carryforwards that are anticipated to expire unused as a result of these ownership changes. These tax attributes have been excluded from the deferred tax assets with a corresponding reduction in the valuation allowance with no net effect on income tax expense or the effective tax rate. Future ownership changes may further limit Celladon's ability to utilize its remaining tax attributes.

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The following table summarized the activity related to Celladon's unrecognized tax benefits (in thousands):

	Year Ended December 31,	
	2015	2014
Balance beginning of the year	\$ 662	\$ 1,709
Increase related to prior year tax positions	4,097	(1,361)
Increase related to current year tax positions	137	314
Balance at end of year	<u>\$4,896</u>	<u>\$ 662</u>

Due to the valuation allowance, none of the unrecognized tax benefits as of December 31, 2015, if recognized, would impact the Company's annual effective tax rate. The Company does not expect a significant change in unrecognized tax benefits over the next 12 months. Due to the net operating loss carryforwards, the U.S. federal and state returns are open to examination by the Internal Revenue Service and significant state and foreign jurisdictions for all years beginning with the inception of Celladon. Celladon's policy is to recognize interest expense and penalties related to income tax matters as a component of income tax expense. There was no interest and penalties associated with uncertain tax positions as of December 31, 2015.

8. Employee Benefits

All employees of Celladon were eligible to participate in the 401(k) Plan until its termination on November 30, 2015. The 401(k) matching contributions were determined by Celladon at its sole discretion. During the years ended December 31, 2015, 2014 and 2013, Celladon made matching contributions totaling \$0.3 million, \$0.3 million and \$0.1 million, respectively.

9. Restructuring charges

On April 26, 2015, Celladon announced that its Phase 2b CUPID 2 trial did not meet its primary and secondary endpoints. No safety issues were noted. Due to the CUPID 2 results and following analysis of the CUPID 2 data, Celladon's board of directors approved a reduction of Celladon's peak workforce of 34 employees. Celladon also committed to retention payments payable to certain key employees if such employees remained with Celladon until December 31, 2015 or were terminated by Celladon without cause prior to such date.

Restructuring charges were as follows (in thousands):

	Year Ended December 31,	
	2015	2014
Employee severance and related costs	\$6,468	\$—
Facility lease termination costs	1,127	—
Asset impairments	192	—
Total restructuring and asset impairment charges	<u>\$7,787</u>	<u>\$—</u>

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The accrued restructuring activity during the year ended December 31, 2015 was as follows:

	Employee Severance and Related Costs	Facility Lease Termination Costs	Total
Accrued restructuring balance as of December 31, 2014	\$ —	\$ —	\$ —
Additional accruals	6,468	1,127	7,595
Cash payments	(5,267)	(1,127)	(6,394)
Accrued restructuring balance as of December 31, 2015	<u>\$ 1,201</u>	<u>\$ —</u>	<u>\$ 1,201</u>

Celladon recorded the additional accruals as restructuring charges in the consolidated statements of operations. The accrued restructuring balance as of December 31, 2015, is presented as a current liability in the consolidated balance sheets and was paid within the first quarter of 2016. The charges incurred during the year ended December 31, 2015, included \$4.0 million related to employee severance costs, which impacted 30 employees who were terminated prior to December 31, 2015, \$2.5 million related to retention payment accruals, and \$1.1 million related to facility lease termination costs.

Following the announcement on June 26, 2015 that Celladon had suspended further research and development of its MYDICAR programs, Celladon determined that certain equipment used in the MYDICAR manufacturing process was impaired and an asset impairment charge of \$0.2 million was recorded to restructuring charges in the consolidated statements of operations for the year ended December 31, 2015. The equipment was sold in the year ended December 31, 2015 at a price equal to its book value. Further, following the reductions in work force, Celladon sold or donated its remaining office furniture and equipment with the exception of nominal office equipment necessary to continue administrative functions and the oversight of the continuing CUPID 2 trial.

10. Litigation

In July 2015, three putative securities class action complaints (captioned Fialkov v. Celladon Corporation, Case No. 15-cv-1458-AJB-DHB, Lorusso v. Celladon Corporation, Case No. 15-cv-1501-L-JLB and Jacobs v. Celladon Corporation, Case No. 15-cv-1529-AJB-MDD) were filed in the U.S. District Court for the Southern District of California against Celladon and certain of Celladon's current and former officers. The complaints generally allege that the defendants violated Sections 10(b) and 20(a) of the Securities Exchange Act of 1934 by making materially false and misleading statements regarding the clinical trial program for MYDICAR, thereby artificially inflating the price of Celladon's common stock. The complaints seek unspecified monetary damages and other relief, including attorneys' fees. On September 1, 2015, six stockholders (or groups of stockholders) filed motions to consolidate the three putative securities class actions and to appoint lead plaintiffs (the "Motions to Consolidate"). A hearing on the Motions to Consolidate was held on December 3, 2015. On December 9, 2015, the Court consolidated the three putative securities class actions and appointed a lead plaintiff to represent the putative class. The lead plaintiff filed a consolidated amended complaint on February 29, 2016. The Company believes that it has meritorious defenses and intends to defend these lawsuits vigorously. Due to the early stage of these proceedings, the Company is not able to predict or reasonably estimate the ultimate outcome or possible losses relating to these claims.

11. Subsequent Events

Completion of Merger

On March 22, 2016, Celladon completed the Merger with Private Eiger merging with Merger Sub. The Merger was effected pursuant to the Merger Agreement. Private Eiger is a clinical stage biopharmaceutical

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company focused on bringing to market novel product candidates for the treatment of orphan diseases. The Merger will be accounted for as a reverse merger under the acquisition method of accounting. Under the acquisition method of accounting, Private Eiger will be treated as the accounting acquiror and Celladon will be treated as the “acquired” company for financial reporting purposes because, immediately upon completion of the Merger, Private Eiger stockholders, prior to the Merger, held a majority of the voting interest of the combined company. The total purchase price for Celladon was approximately \$26.8 million and will be allocated to identifiable tangible and intangible assets existing as of March 22, 2016 with any residual amount recorded as goodwill.

Prior to the Merger, on March 22, 2016, Celladon effected a 1-for-15 reverse stock split on its issued and outstanding common stock. Pursuant to the terms of the Merger Agreement, each outstanding share of Private Eiger common stock was converted into approximately 0.0875219 of a share of Celladon’s common stock (the “Exchange Ratio”). In addition, upon closing of the Merger: (i) all outstanding options to purchase shares of Private Eiger’s common stock were assumed by Celladon and converted into options to purchase shares of Celladon’s common stock, in each case appropriately adjusted based on the Exchange Ratio; and (ii) all outstanding warrants to purchase shares of Private Eiger’s common stock were assumed by Celladon and converted into warrants to purchase shares of Celladon’s common stock, in each case appropriately adjusted based on the Exchange Ratio. No fractional shares of Celladon’s common stock were issued in connection with the Merger. Instead, Private Eiger’s stockholders received cash in lieu of any fractional shares of Celladon common stock that such stockholders would otherwise have been entitled to receive in connection with the Merger. Also, as a result of the reverse stock split, the per share exercise price of, and the number of shares of common stock underlying, Celladon’s stock options and warrants outstanding prior to the reverse stock split were automatically proportionally adjusted based on the 15-to-1 reverse stock split ratio in accordance with the terms of such options and warrants. The reverse stock split did not alter the par value of Celladon’s common stock or modify any voting rights or other terms of the common stock.

Also in connection with the completion of the Merger, Celladon changed its name from “Celladon Corporation” to “Eiger BioPharmaceuticals, Inc.”

12. Selected Quarterly Financial Data (Unaudited)

The following financial information reflects all normal recurring adjustments, which are, in the opinion of management, necessary for a fair statement of the results of the interim periods. Summarized quarterly data for fiscal 2015 and 2014 are as follows (in thousands, except per share data):

	<u>First Quarter</u>	<u>Second Quarter</u>	<u>Third Quarter</u>	<u>Fourth Quarter</u>
2015				
Total operating expenses	\$ 16,297	\$ 16,075	\$ 5,052	\$ 4,757
Consolidated Net loss	(16,746)	(16,525)	(6,396)	(4,746)
Basic and diluted net loss per share	\$ (10.65)	\$ (10.35)	\$ (4.05)	\$ (3.00)
2014				
Total operating expenses	\$ 6,924	\$ 7,005	\$ 8,131	\$ 10,958
Consolidated Net loss	(7,162)	(6,992)	(8,358)	(11,341)
Basic and diluted net loss per share	\$ (9.00)	\$ (5.70)	\$ (6.00)	\$ (7.35)

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ITEM 9. Changes in and Disagreements with Accountants on Accounting and Financial Disclosure

None.

ITEM 9A. Controls and Procedures

Evaluation of Disclosure Controls and Procedures.

We are responsible for maintaining disclosure controls and procedures, as defined in Rules 13a-15(e) and 15d-15(e) under the Exchange Act. Disclosure controls and procedures are controls and other procedures designed to ensure that the information required to be disclosed by us in the reports that we file or submit under the Exchange Act is recorded, processed, summarized, and reported within the time periods specified in the SEC's rules and forms. Disclosure controls and procedures include, without limitation, controls and procedures designed to ensure that information required to be disclosed by us in the reports that we file or submit under the Exchange Act is accumulated and communicated to our management, including our principal executive officer and our principal financial officer, as appropriate to allow timely decisions regarding required disclosure.

Based on our management's evaluation (with the participation of our principal executive officer and our principal financial officer) of our disclosure controls and procedures as required by Rule 13a-15 under the Exchange Act, our principal executive officer and our principal financial officer have concluded that our disclosure controls and procedures were effective to achieve their stated purpose as of December 31, 2015, the end of the period covered by this report.

Management's Report on Internal Control over Financial Reporting.

Our management is responsible for establishing and maintaining adequate internal control over financial reporting as such term is defined in Exchange Act Rule 13a-15(f). Internal control over financial reporting is a process designed under the supervision and with the participation of our management, including our principal executive officer and principal financial officer, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with accounting principles generally accepted in the United States of America.

As of December 31, 2015, our management assessed the effectiveness of our internal control over financial reporting using the criteria set forth by the Committee of Sponsoring Organizations of the Treadway Commission in Internal Control-Integrated Framework (2013 Framework). Based on this assessment, our management concluded that, as of December 31, 2015, our internal control over financial reporting was effective based on those criteria.

Changes in Internal Control over Financial Reporting.

There were no changes in our internal control over financial reporting during the quarter ended December 31, 2015 that have materially affected, or are reasonably likely to materially affect, our internal control over financial reporting.

ITEM 9B. Other Information

None.

PART III

ITEM 10. Directors, Executive Officers and Corporate Governance

The following table lists the names, ages and positions of the individuals currently serving as executive officers and directors of the Company:

<u>Name</u>	<u>Age</u>	<u>Position(s)</u>
<i>Executive Officers</i>		
David Cory, R.Ph.	52	President, Chief Executive Officer and Director
James Welch	58	Chief Financial Officer
Joanne Quan, M.D.	52	Chief Medical Officer
James Shaffer	49	Chief Business Officer
Eduardo Martins, M.D., D.Phil	53	Senior Vice President, Liver and Infectious Disease
<i>Non-Employee Directors</i>		
Edgar Engleman, M.D.	69	Director
Nina Kjellson	41	Director
Jeffrey Glenn, M.D., Ph.D.	53	Director
Thomas Dietz, Ph.D.	52	Director
Charles J. Bramlage	55	Director

Executive Officers

David Cory, R.Ph. David Cory has been the President and Chief Executive Officer of Private Eiger since 2009 and assumed the same positions at Eiger in March 2016. Previously, Mr. Cory was Chief Executive Officer of DiObex from 2007 to 2008 and President and Chief Operating Officer at Prestwick Pharmaceuticals from 2004 to 2006. Mr. Cory was Co-Founder and Acting Chief Commercial Officer at CoTherix in 2003 and Senior Vice President of Sales and Marketing at InterMune from 2000 to 2003. Previously, Mr. Cory held positions of increasing responsibility in Commercial Operations at Glaxo, Glaxo Wellcome, and Glaxo Smith Kline. Mr. Cory earned a B.S. in Pharmacy from the University of Cincinnati, College of Pharmacy and an M.B.A. from the University of Maryland University College.

We believe Mr. Cory's qualifications to sit on the board of directors include his extensive management experience in the biopharmaceutical industry.

James Welch. James Welch has been the Chief Financial Officer of Private Eiger since August 2015 and assumed the same position at Eiger in March 2016. Mr. Welch has over 20 years of experience as Chief Financial Officer at both public and private companies including at Virobay Inc. from 2014 to 2015, at AcelRx Pharmaceuticals, Inc. from 2010 to 2014, at Cerimon Pharmaceuticals, Inc. from 2006 to 2010, at Rigel Pharmaceuticals, Inc. from 1999 to 2006, and at Biocircuits Corporation from 1992 to 1998. Mr. Welch graduated from Whitworth College with a B.A. in Business Administration and from Washington State University with an M.B.A. in Finance.

Joanne Quan, M.D. Joanne Quan has been the Chief Medical Officer of Private Eiger since April 2015 and assumed the same position at Eiger in March 2016. Previously, Dr. Quan was Vice President, New Product Clinical Development at InterMune from 2014 to 2015. Previously, she was Vice President, Clinical Development at Arena Pharmaceuticals from 2012 to 2014. Prior to this, Dr. Quan held scientific, clinical and regulatory positions of increasing responsibility at BioMarin Pharmaceuticals from 2011 to 2012, Bayhill Therapeutics from 2008 to 2011, at Alza Corporation (Johnson and Johnson) from 2005 to 2008, at Genentech from 2000 to 2005, and at PathoGenesis Corporation from 1996 to 2000. Dr. Quan received a B.A. in Molecular Biology at the University of California, Berkeley and an M.D. at Stanford University School of Medicine. She completed a residency in Internal Medicine at Massachusetts General Hospital and a fellowship in Pulmonary and Critical Care Medicine at the University of Washington, Seattle.

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James Shaffer. James Shaffer has been the Chief Business Officer of Private Eiger since September 2015 and assumed the same position at Eiger in March 2016, having previously served as a consultant to Private Eiger from August 2014 through September 2015. Previously, Mr. Shaffer was Vice President and Chief Commercial Officer at Halozyme Therapeutics from 2011 to 2014 and Executive Vice President and Chief Commercial Officer at Clinical Data Inc. from 2007 to 2011. Prior to those positions, Mr. Shaffer held a series of different sale and product related positions of increasing responsibility at multiple pharmaceutical companies. Mr. Shaffer earned a B.S. in Agriculture Economics and a M.B.A. from the Ohio State University.

Eduardo Martins, M.D., D.Phil. Eduardo Martins has been the Senior Vice President, Liver and Infectious Diseases of Private Eiger since November 2015 and assumed the same position at Eiger in March 2016. Previously, Dr. Martins was the Senior Director, Medical Affairs for Hepatitis at Gilead Sciences from December 2010 to October 2015, Senior International Medical Leader for Pegasys (pegylated interferon alfa-2a) at Genentech, a member of the Roche Group, from August 2009 to December 2010, and head of the Office of International Development at Genentech from December 2008 to August 2009. Prior to joining Genentech, Dr. Martins worked in positions of increasing responsibility at Dynavax Technologies from March 2006 to December 2008, at InterMune from February 2005 to February 2006, at SciClone Pharmaceuticals from July 1999 to January 2005, primarily focused on vaccines and therapeutics for viral hepatitis. Dr. Martins received an M.D. from the Medical School, Federal University of Rio De Janeiro, Brazil and a Ph.D. in Immunology of Liver Diseases from the University of Oxford (D.Phil.), United Kingdom. He completed specialty training in Gastroenterology and Hepatology at John Radcliffe Hospital, Oxford, United Kingdom.

Non-Employee Directors

Edgar Engleman, M.D. Edgar Engleman has been a member of Private Eiger's board of directors since his appointment in 2008 and assumed the same position at Eiger in March 2016. Dr. Engleman is a founding member and Managing Partner of Vivo Capital, LLC, founded in 1996. Dr. Engleman has been a Professor of Pathology and Medicine at Stanford University School of Medicine since 1978, where he oversees the Stanford Blood Center and his own immunology research group. Dr. Engleman currently serves on the boards of several private biotechnology companies and two public companies, Capnia and RegenX. He has co-founded a number of biopharmaceutical companies including Cetus Immune in 1980, Genelabs in 1983, Dendreon in 1992 and Medeor in 2013. He received his B.A. from Harvard University and his M.D. from Columbia University School of Medicine. He also completed residency training in internal medicine at the University of California, San Francisco, and training in immunology, rheumatology and transfusion medicine at Stanford University School of Medicine.

We believe Dr. Engleman's qualifications to sit on the board of directors include his medical and research backgrounds and extensive experience in the biopharmaceutical industry.

Nina Kjellson. Nina Kjellson has been a member of Private Eiger's board of directors since her appointment in 2008 and assumed the same position at Eiger in March 2016. Ms. Kjellson is currently a general partner at Canaan Partners, a venture capital firm. Prior to joining Canaan Partners, Ms. Kjellson held various roles at InterWest Partners, a venture capital firm, from 2002 to September 2015, most recently as a general partner. Prior to joining InterWest, Ms. Kjellson was an investment manager at Bay City Capital, a life sciences merchant bank from 1999 to 2000, and a research associate at Oracle Partners, a healthcare-focused hedge fund. From 1997 to 1999, Ms. Kjellson conducted health policy and survey research with the Kaiser Family Foundation. Ms. Kjellson currently also serves on the board of directors of Lycera Corp., Ocera Therapeutics Inc., and Welltok, Inc. Ms. Kjellson received a B.S. in human biology from Stanford University.

We believe Ms. Kjellson's qualifications to sit on the board of directors include her extensive experience in venture capital and biopharmaceutical industries.

Jeffrey Glenn, M.D., Ph.D. Jeffrey Glenn has been a member of Private Eiger's board of directors since his appointment in 2008 and assumed the same position at Eiger in March 2016. Dr. Glenn has been an Associate Professor of Medicine, Division of Gastroenterology & Hepatology, and Microbiology & Immunology at Stanford University School of Medicine since 2000, and the Director of the Center for Hepatitis and Liver Tissue

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Engineering since 2006. Dr. Glenn is also the scientific founder of Eiger. Dr. Glenn earned an A.B. in biochemistry and French civilization from University of California, Berkeley and both a M.D. and Ph.D. in biochemistry from University of California, San Francisco. He also completed an internal medicine residency and a gastroenterology fellowship at Stanford University Medical Center.

We believe Dr. Glenn's qualifications to sit on the board of directors include his medical and research backgrounds.

Thomas Dietz, Ph.D. Thomas Dietz has been a member of Private Eiger's board of directors since his appointment in October 2015 and assumed the same position at Eiger in March 2016. Dr. Dietz has served as Chairman and CEO of Waypoint Holdings, LLC, a financial services firm, since December 2010. Dr. Dietz was previously co-CEO and then CEO and a director of Pacific Growth Equities, LLC, an investment bank and institutional brokerage firm, from 2004 to January 2009, when the firm was acquired by Wedbush Securities, a financial services firm. Dr. Dietz subsequently served as head of the investment banking division at Wedbush until November 2010. Dr. Dietz joined Pacific Growth in 1993 and served in various roles, including senior roles in equities research and investment banking, prior to taking the CEO role there. Previously, Dr. Dietz was a member of the research faculty in the Department of Medicine, University of California, San Francisco and the VA Medical Center. Dr. Dietz holds a Ph.D. in molecular biology and biochemistry from Washington University in St. Louis.

We believe Dr. Dietz's qualifications to sit on the board of directors include his medical and research backgrounds and extensive finance and executive experience in the financial services industry.

Charles J. Bramlage. Charles J. Bramlage, has served as a member of our board of directors since March 2016. Mr. Bramlage has also served as Chief Executive Officer of Pearl Therapeutics, Inc. since February 2011. He previously served as president of pharmaceutical products at Covidien plc (NYSE: COV) from 2008 to 2011. Mr. Bramlage served as the President of European Operations at Valeant Pharmaceuticals International, Inc. (NYSE: VRX) from 2004 to 2008 and President and Chief Executive Officer of BattellePharma, Inc., a specialty pharmaceutical company developing inhaled products from 2001 to 2004. From 1983 to 2001, Mr. Bramlage held positions of increasing responsibility at GlaxoSmithKline plc (LSE/NYSE: GSK) in product management, sales management, sales, and sales training, ultimately becoming Vice-President of Respiratory Global Commercial Development and Vice-President of U.S. Respiratory and Cardiovascular Marketing, where he led the team responsible for the global launch of Seretide®/Advair® and the U.S. launch of Flovent®. Mr. Bramlage currently also serves on the board of directors of Bidelivery Sciences International Inc. Mr. Bramlage received a B.S. in Marketing from The Ohio State University-The Max M. Fisher College of Business and received an M.B.A in Finance from the University of Dayton.

We believe Mr. Bramlage's qualifications to sit on the board of directors include his extensive experience in the biopharmaceutical industry.

Code of Ethics

We have adopted a written code of business conduct and ethics that applies to our directors, officers and employees, including our principal executive officer, principal financial officer, principal accounting officer or controller, or persons performing similar functions. A current copy of the code is posted on the Investors Corporate Governance section of our website, which is located at www.eigerbio.com. If we make any substantive amendments to, or grant any waivers from, the code of business conduct and ethics for any officer or director, we will disclose the nature of such amendment or waiver on our website or in a current report on Form 8-K.

Independence of the Board of Directors

As required under the NASDAQ Stock Market ("NASDAQ") listing standards, a majority of the members of a listed company's Board of Directors must qualify as "independent," as affirmatively determined by the

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Board of Directors. The Board consults with the Company's counsel to ensure that the Board's determinations are consistent with relevant securities and other laws and regulations regarding the definition of "independent," including those set forth in pertinent listing standards of NASDAQ, as in effect from time to time.

Consistent with these considerations, after review of all relevant identified transactions or relationships between each director, or any of his or her family members, and the Company, its senior management and its independent auditors:

- the Celladon Board of Directors determined that all of the directors who served on Celladon's Board of Directors during the year ended December 31, 2015, except Dr. Krisztina M. Zsebo and Mr. Paul B. Cleveland (who also served as executive officers of Celladon and therefore were not considered independent), were independent directors as defined by Rule 5605(a)(2) of the NASDAQ Listing Rules; and
- the Eiger Board of Directors has determined that all of the directors currently serving on the Eiger Board of Directors, other than Mr. Cory (who serves as an executive officer of Eiger and therefore is not considered independent), are independent directors as defined by Rule 5605(a)(2) of the NASDAQ Listing Rules. In making those independence determinations, the Eiger Board of Directors took into account certain relationships and transactions that occurred in the ordinary course of business between the Company and entities with which some of its directors are or have been affiliated, the current and prior relationships that each non-employee director has with Eiger and all other facts and circumstances Eiger's Board deemed relevant in determining their independence, including the beneficial ownership of Eiger's capital stock by each non-employee director, and including an on-going consulting relationship, to which Eiger is not a party, between Nina Kjellson, one of Eiger's directors, and Interwest Partners LLC, an affiliate of a beneficial owner of more than 5% of Eiger's common stock.

In making this determination, it was determined that none of these directors had a material or other disqualifying relationship with the Company.

Audit Committee and Financial Expert

The Audit Committee of the Board of Directors was established by the Company's Board of Directors in accordance with Section 3(a)(58)(A) of the Exchange Act to oversee the Company's corporate accounting and financial reporting processes and audits of its financial statements. The Company's Audit Committee is currently composed of Dr. Glenn, Dr. Dietz and Mr. Bramlage, each of whom Private Eiger's Board of Directors has determined satisfies the NASDAQ Stock Market and SEC independence requirements. Private Eiger's Board of Directors has also determined that Dr. Dietz qualifies as an "audit committee financial expert," as defined in applicable SEC rules.

Involvement in Certain Legal Proceedings

Please see above under "— Legal Proceedings."

Section 16(a) Beneficial Ownership Reporting Compliance

Section 16(a) of the Exchange Act requires the Company's directors and executive officers, and persons who own more than ten percent of a registered class of the Company's equity securities, to file with the SEC initial reports of ownership and reports of changes in ownership of common stock and other equity securities of the Company. Officers, directors and greater than ten percent stockholders are required by SEC regulation to furnish the Company with copies of all Section 16(a) forms they file.

To our knowledge, based solely on a review of the copies of such reports furnished to the Company and written representations from certain reporting persons, during the fiscal year ended December 31, 2015, all Section 16(a) filing requirements applicable to our officers, directors and persons who own more than ten percent of a registered class of our equity securities were complied with and filed on time.

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The Company's named executive officers for the year ended December 31, 2015, which consist of any person who served as Celladon's principal executive officer during any part of 2015, Celladon's two other most highly compensated executive officers and two additional individuals for whom disclosure would have been provided but for the fact that the individual was not serving as an executive officer at the end of the year, are:

- Krisztina M. Zsebo, Ph.D., Celladon's former Chief Executive Officer;
- Paul B. Cleveland, Celladon's former President and Chief Executive Officer;
- Fredrik Wiklund, Celladon's former President and Chief Executive Officer;
- Andrew Jackson, Celladon's former Chief Financial Officer;
- Elizabeth E. Reed, Celladon's former Vice President and General Counsel; and
- Rebecque J. Laba, Celladon's former Vice President, Corporate Operations.

The following Summary Compensation Table and narrative disclosure sets forth information regarding the compensation of Celladon's named executive officers for the years ended December 31, 2015 and 2014, provided that information for Messrs. Wiklund and Jackson and Ms. Laba is presented only for the year ended December 31, 2015 because they were not named executive officers for the year ended December 31, 2014.

Summary Compensation Table

Name and principal position	Year	Salary (\$)	Bonus (\$)	Option awards (\$)(1)	Non-equity Incentive plan compensation (\$)	All other compensation (\$)	Total (\$)
Krisztina M. Zsebo, Ph.D. (2) <i>Chief Executive Officer</i>	2015	212,438	—	3,489,750	—	541,973(3)	4,244,161
	2014	479,296	—	745,893	258,086	58,689	1,541,964
Paul B. Cleveland (4) <i>President and Chief Executive Officer</i>	2015	391,795	—	1,776,600	—	1,127,200(5)	3,295,595
	2014	189,707	—	2,786,511	118,114	1,165	3,095,497
Fredrik Wiklund (6)(7) <i>President and Chief Executive Officer</i>	2015	251,423	454,190(8)	1,015,200	50,000(9)	18,946(10)	1,789,759
Andrew C. Jackson (7)(11) <i>Chief Financial Officer</i>	2015	210,039	386,618(12)	188,447	40,000(13)	17,443(14)	842,547
Elizabeth E. Reed(7) <i>Vice President and General Counsel</i>	2015	280,500	527,234(15)	913,680	40,000(16)	22,888(17)	1,784,302
	2014	233,806	—	442,023	82,500	11,808	770,137
Rebecque J. Laba (18) <i>Vice President, Corporate Operations</i>	2015	248,384	141,934(19)	1,015,200	—	417,442(20)	1,822,961

- (1) In accordance with SEC rules, this column reflects the aggregate grant date fair value of the option awards granted during the applicable year computed in accordance with Financial Accounting Standard Board Accounting Standards Codification Topic 718 for stock-based compensation transactions (ASC 718). Assumptions used in the calculation of these amounts are included in Note 6 to the Celladon audited financial statements included in this Annual Report on Form 10-K for the year ended December 31, 2015. These amounts do not reflect the actual economic value that may be realized by the named executive officer upon the vesting of the stock options, the exercise of the stock options, or the sale of the common stock underlying such stock options.

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- (2) Dr. Zsebo's employment with Celladon terminated on May 29, 2015.
- (3) Amount shown includes \$30,879 in 401(k) matching contributions and \$1,245 premiums for life, disability and accidental death and dismemberment insurance. These benefits were provided to the named executive officers on the same terms as provided to all of Celladon's regular full-time employees. For more information regarding these benefits, see below under "—Perquisites, Health, Welfare and Retirement Benefits." Also aggregated in this amount is \$509,850 in severance payments paid in connection with Dr. Zsebo's termination of employment.
- (4) Mr. Cleveland was appointed as Chief Executive Officer of Celladon on May 29, 2015. Prior thereto, he served as our President and Chief Financial Officer since June 2014. His employment with Celladon terminated on November 19, 2015.
- (5) Amount shown includes \$25,829 in 401(k) matching contributions and \$2,738 premiums for life, disability and accidental death and dismemberment insurance. These benefits were provided to the named executive officers on the same terms as provided to all of Celladon's regular full-time employees in the United States. For more information regarding these benefits, see below under "—Perquisites, Health, Welfare and Retirement Benefits." Also aggregated in this amount is \$1,045,193 in severance payments, and \$53,440 in COBRA/medical premium payments paid in connection with Mr. Cleveland's termination of employment pursuant to the terms of his Employment Agreement, as amended.
- (6) Mr. Wiklund was appointed as President and Chief Executive Officer of Celladon on November 19, 2015.
- (7) Resigned from the Company on March 22, 2016 in connection with the Merger.
- (8) Amount shown represents a cash bonus payment in an amount equal to and in place of the cash severance and retention benefit payments of \$328,479 and \$125,711, respectively, provided pursuant to Mr. Wiklund's previously existing agreements. For more information, see below under "—Bonus Payments in Lieu of Severance and Retention."
- (9) Amount shown represents an incentive bonus for the filing of the registration statement on Form S-4 in December 2015. For more information, see below under "—Merger Incentive Bonus Program."
- (10) Amount shown includes \$16,026 in 401(k) matching contributions and \$2,920 premiums for life, disability and accidental death and dismemberment insurance. These benefits were provided to the named executive officers on the same terms as provided to all of Celladon's regular full-time employees in the United States. For more information regarding these benefits, see below under "—Perquisites, Health, Welfare and Retirement Benefits."
- (11) Mr. Jackson was appointed as the principal accounting officer of Celladon in January 2015 and was appointed as Chief Financial Officer of Celladon on May 29, 2015.
- (12) Amount shown represents a cash bonus payment in an amount equal to and in place of the cash severance and retention benefit payments of \$288,682 and \$97,936, respectively, provided in Mr. Jackson's previously existing agreements. For more information, see below under "—Bonus Payments in Lieu of Severance and Retention."
- (13) Amount shown represents an incentive bonus for the filing of the registration statement on Form S-4 in December 2015. For more information, see below under "—Merger Incentive Bonus Program."
- (14) Amount shown includes \$15,038 in 401(k) matching contributions and \$2,405 premiums for life, disability and accidental death and dismemberment insurance. These benefits were provided to the named executive officers on the same terms as provided to all of Celladon's regular full-time employees in the United States. For more information regarding these benefits, see below under "—Perquisites, Health, Welfare and Retirement Benefits."
- (15) Amount shown represents a cash bonus payment in an amount equal to and in place of the cash severance and retention benefit payments of \$386,984 and \$140,250, respectively, provided pursuant to Ms. Reed's previously existing agreements. For more information, see below under "—Bonus Payments in Lieu of Severance and Retention."
- (16) Amount shown represents an incentive bonus for the filing of the registration statement on Form S-4 in December 2015. For more information, see below under "—Merger Incentive Bonus Program."
- (17) Amount shown includes \$19,900 in 401(k) matching contributions and \$2,988 premiums for life, disability and accidental death and dismemberment insurance. These benefits were provided to the named executive officers on the same terms as provided to all of Celladon's regular full-time employees. For more information regarding these benefits, see below under "—Perquisites, Health, Welfare and Retirement Benefits."

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- (18) Ms. Laba's employment with Celladon terminated on November 15, 2015.
- (19) Amount shown represents a retention bonus. For more information, see below under "—Retention Program."
- (20) Amount shown includes \$21,579 in 401(k) matching contributions and \$2,738 premiums for life, disability and accidental death and dismemberment insurance. These benefits were provided to the named executive officers on the same terms as provided to all of Celladon's regular full-time employees. For more information regarding these benefits, see below under "—Perquisites, Health, Welfare and Retirement Benefits." Also aggregated in this amount is \$369,028 in severance payments and \$24,097 in COBRA payments in connection with Ms. Laba's termination pursuant to the terms of her Employment Agreement, as amended.

Annual Base Salary

The compensation of Celladon's named executive officers was generally determined and approved by Celladon's Board of Directors, based on the recommendation of the Compensation Committee of the Celladon Board or by the Compensation Committee acting upon delegation from the Celladon Board. The Compensation Committee of the Celladon Board approved the 2015 base salaries for Celladon's named executive officers. The 2015 base salaries set forth below for Dr. Zsebo, Mr. Wiklund, Ms. Reed and Ms. Laba were effective on January 1, 2015, while the base salaries set forth below for Messrs. Cleveland and Jackson were effective in connection with their promotions to Chief Executive Officer and Chief Financial Officer, respectively, on May 29, 2015.

<u>Name</u>	<u>2015 Base Salary</u>
Fredrik Wiklund	\$ 251,423
Paul B. Cleveland	\$ 509,850
Krisztina Zsebo	\$ 509,850
Andrew C. Jackson	\$ 220,000
Elizabeth E. Reed	\$ 280,500
Rebecque J. Laba	\$ 283,868

Annual Performance-Based Bonus Opportunity

In addition to base salaries, Celladon's named executive officers were eligible to receive annual performance-based cash bonuses, which were designed to provide appropriate incentives to Celladon's executives to achieve defined annual corporate goals and to reward the executives for individual achievement towards these goals. The annual performance-based bonus each named executive officer was eligible to receive was generally based on the extent to which Celladon achieved the corporate goals that its Board of Directors established each year. At the end of the year, the Celladon Board of Directors and/or its Compensation Committee would typically review Celladon's performance against each corporate goal and approve the extent to which Celladon achieved each of its corporate goals.

For 2015, the Celladon Board of Directors established target bonuses as a percentage of their respective annual base salaries of 55% for Dr. Zsebo and Mr. Cleveland (with the 55% target bonus for Mr. Cleveland being effective in connection with his promotion to Chief Executive Officer) and 30% for Mr. Wiklund, Ms. Reed and Ms. Laba and 25% for Mr. Jackson.

The Celladon Board of Directors established five sets of corporate goals for 2015, consisting of goals related to the development and manufacturing of MYDICAR, goals related to the companion diagnostic for MYDICAR, additional development related goals and general corporate and financial related goals. Because Celladon's MYDICAR Phase 2b clinical trial, which was unblinded in late April 2015, failed to meet its primary and secondary endpoints, and in light of the resulting significant negative impact on Celladon's overall business, the Celladon Board of Directors did not formally assess the achievement of Celladon's 2015 corporate goals at the end of the year and did not award annual performance based bonuses with respect to 2015.

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Equity-Based Incentive Awards

Celladon's equity-based incentive awards were designed to align Celladon's interests with those of its employees, including its named executive officers. Celladon's Board of Directors or the Compensation Committee of the Celladon Board was responsible for approving equity grants to executive officers. Stock option awards were the only form of equity awards Celladon granted to its named executive officers. Vesting of the stock option awards was tied to continuous service with Celladon and served as an additional retention measure. Celladon's executives were generally awarded an initial grant upon commencement of employment. Additional grants occurred periodically in order to specifically incentivize executives with respect to achieving certain corporate goals or to reward executives for exceptional performance.

Prior to Celladon's initial public offering, Celladon granted all equity awards pursuant to the 2012 equity incentive plan ("the Celladon 2012 plan") and the 2001 stock option plan ("the Celladon 2001 plan"), the terms of which are described below under "—Equity Benefit Plans." All options were granted with a per share exercise price equal to no less than the fair market value of a share of Celladon's common stock on the date of the grant of such award.

Generally Celladon's stock option awards vest over a four-year period subject to the holder's continuous service to Celladon and may have been granted with an early exercise feature.

On December 5, 2014, the Compensation Committee approved the grant to each of Dr. Zsebo, Mr. Cleveland, Mr. Wiklund, Ms. Reed and Ms. Laba of options to purchase 18,333, 9,333, 5,333, 4,800 and 5,333 shares of common stock, respectively. Mr. Jackson who was appointed as an executive officer of Celladon in January 2015 was awarded an option to purchase 990 shares of common stock. Each of these options was granted effective as of January 1, 2015 as an annual refresh grant. Each of these option grants was to vest and become exercisable over a four year period following the grant date subject to the named executive officer's continued service with Celladon and had an exercise price per share equal to the closing price of Celladon's stock on the grant date.

2016 Compensation

Other than the amendments to the agreements described below, the Celladon Board of Directors did not make compensation changes for 2016. The base salaries for Messrs. Wiklund and Jackson and Ms. Reed remained unchanged from 2015 levels and no annual refresher option grants were made.

Agreements with the Named Executive Officers

Below are descriptions of Celladon's historical employment and compensation related agreements with the named executive officers and Celladon's consulting agreement with Ms. Reed that was in effect prior to her employment letter agreement.

Agreement with Dr. Zsebo. Celladon entered into an amended and restated employment letter agreement with Dr. Zsebo in August 2013, as amended in January 2014 that replaced her previous letter agreement dated July 2012 and became effective in January 2014 in connection with the execution and delivery of the underwriting agreement related to Celladon's initial public offering. Under the amended and restated letter agreement, Dr. Zsebo was entitled to an initial annual base salary of \$417,524, was eligible to receive an annual target performance bonus of up to 45% of her base salary as determined by the Board of Directors, and was entitled to certain severance benefits, the terms of which are described below under "—Potential Payments Upon Termination or Change of Control." In March 2014, the Compensation Committee and the Board of Directors reviewed the salary and target bonus percentages for the executive officers and made certain changes. As approved by the Board of Directors, effective March 1, 2014, Dr. Zsebo was entitled to an annual base salary of \$495,000 and was eligible to receive an annual target performance bonus of up to 55% of her base salary as determined by the Board of Directors. Effective January 1, 2015, the Board of Directors approved a base salary of \$509,850 for Dr. Zsebo. In May 2015, Celladon's agreements with the executive officers, including Dr. Zsebo,

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were amended to provide for a lump sum payment of any severance payment, as opposed to continued salary as provided for under the original terms of the agreements.

On May 29, 2015, Dr. Zsebo resigned as the Chief Executive Officer and as a director of Celladon. In connection with Dr. Zsebo's resignation, Celladon agreed to provide Dr. Zsebo with the severance benefits to which she would have been entitled to receive pursuant to her employment letter agreement with Celladon had she been terminated without "cause" or resigned for "good reason," subject to Dr. Zsebo providing Celladon with an effective general release of claims.

Agreement with Mr. Cleveland. Celladon entered into an employment letter agreement with Mr. Cleveland in May 2014. Under this letter agreement, Mr. Cleveland was entitled to an initial base salary of \$355,700, and was eligible to receive an annual target performance bonus of up to 35% of his base salary as determined by the Board of Directors, and was entitled to certain severance benefits, the terms of which are described below under "—Potential Payments Upon Termination or Change of Control." As approved by the Board of Directors, effective January 1, 2015, Mr. Cleveland was entitled to an annual base salary of \$359,257, and effective May 29, 2015, in connection with his promotion to Chief Executive Officer, Mr. Cleveland was entitled to an annual base salary of \$509,850 and became eligible to receive an annual target performance bonus of up to 55% of his base salary as determined by the Board of Directors. Mr. Cleveland's employment letter agreement was subsequently amended two times during 2015 as described below. Mr. Cleveland's employment with Celladon terminated on November 19, 2015.

Agreement with Mr. Wiklund. Celladon entered into an amended and restated employment letter agreement with Mr. Wiklund in August 2013, as amended in January 2014, which became effective in January 2014 in connection with the execution and delivery of the underwriting agreement related to Celladon's initial public offering. Under the amended and restated letter agreement, Mr. Wiklund was entitled to an initial annual base salary of \$200,000, was eligible to receive an annual target performance bonus as determined by the Board of Directors, and was entitled to certain severance benefits, the terms of which are described below under "—Potential Payments Upon Termination or Change of Control." In March 2014, the Compensation Committee and the Board of Directors reviewed the salary and target bonus percentages for the executive officers and made certain changes. As approved by the Board of Directors, effective March 1, 2014, Mr. Wiklund was entitled to an annual base salary of \$244,100 and was eligible to receive an annual target performance bonus of up to 30% of his base salary as determined by the Board of Directors, and effective January 1, 2015, Mr. Wiklund was entitled to an annual base salary of \$251,423. Mr. Wiklund's employment letter agreement was subsequently amended two times during 2015 as described below. In May 2015, Celladon entered into a Retention Agreement with Mr. Wiklund as described below and in November 2015, Mr. Wiklund's employment letter agreement and Retention Agreement were terminated and replaced with an Executive Bonus Agreement, as described below. Also in November 2015, Celladon entered into a Merger Incentive Bonus Agreement with Mr. Wiklund, as described below. Mr. Wiklund's employment with Celladon terminated March 22, 2016.

Agreement with Mr. Jackson. Celladon entered into an employment letter agreement with Mr. Jackson in March 2014. Under this letter agreement, Mr. Jackson was entitled to an initial base salary of \$190,000, and was eligible to receive an annual target performance bonus of up to 20% of his base salary as determined by the Board of Directors, and certain severance benefits, the terms of which are described below under "—Potential Payments Upon Termination or Change of Control." As approved by the Board of Directors, effective January 1, 2015, Mr. Jackson's was entitled to a base salary of \$195,872 and effective May 29, 2015, in connection with his promotion to Chief Financial Officer, Mr. Jackson was entitled to an annual base salary of \$220,000 and became eligible to receive an annual target performance bonus of up to 25% of his base salary as determined by the Board of Directors. Mr. Jackson's employment letter agreement was also further amended during 2015 as described below. In May 2015, Celladon entered into a Retention Agreement with Mr. Jackson as described below (the "Retention Agreement") and in November 2015, Mr. Jackson's employment letter agreement and Retention Agreement were terminated and replaced with an Executive Bonus Agreement, as described below. Also in November 2015, Celladon entered into a Merger Incentive Bonus Agreement with Mr. Jackson, as described below. Mr. Jackson's employment with Celladon terminated March 22, 2016.

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Agreement with Ms. Reed. Celladon entered into a consulting agreement with Ms. Reed in February 2014. Pursuant to the consulting agreement, in exchange for providing legal consulting services for Celladon, Ms. Reed was paid a weekly retainer fee of \$5,000, plus an additional hourly fee if the number of hours worked per week exceeded the specified number of weekly retainer hours, and was granted an option to purchase 366 shares of Celladon common stock. Celladon entered into an employment letter agreement with Ms. Reed in May 2014, which superseded her consulting agreement. Under this letter agreement, Ms. Reed was entitled to an initial base salary of \$275,000, and was eligible to receive an annual target performance bonus of up to 30% of her base salary as determined by the Board of Directors, and was entitled to certain severance benefits, the terms of which are described below under “—Potential Payments Upon Termination or Change of Control.” As approved by the Board of Directors, effective January 1, 2015, Ms. Reed’s salary was increased to \$280,500. Ms. Reed’s employment letter agreement was subsequently amended two times during 2015 as described below. In May 2015, Celladon entered into a Retention Agreement with Ms. Reed as described below and in November 2015, Ms. Reed’s employment letter agreement and Retention Agreement were terminated and replaced with an Executive Bonus Agreement, as described below. Also in November 2015, Celladon entered into a Merger Incentive Bonus Agreement with Ms. Reed, as described below. Ms. Reed’s employment with Celladon terminated March 22, 2016.

Agreement with Ms. Laba. Celladon entered into an amended and restated employment letter agreement with Ms. Laba in August 2013, as amended in January 2014, which became effective in January 2014 in connection with the execution and delivery of the underwriting agreement related to Celladon’s initial public offering. Under the amended and restated letter agreement, Ms. Laba was entitled to an initial annual base salary of \$216,300, was eligible to receive an annual target performance bonus as determined by the Board of Directors, and was entitled to certain severance benefits, the terms of which are described below under “—Potential Payments Upon Termination or Change of Control.” In March 2014, the Compensation Committee and the Board of Directors reviewed the salary and target bonus percentages for the executive officers and made certain changes. As approved by the Board of Directors, effective March 1, 2014, Ms. Laba was entitled to an annual base salary of \$275,600 and was eligible to receive an annual target performance bonus of up to 30% of her base salary as determined by the Board of Directors. As approved by the Board of Directors, effective January 1, 2015, Ms. Laba’s salary was increased to \$283,868. Ms. Laba’s employment letter agreement was subsequently amended two times during 2015 as described below. In May 2015, Celladon entered into a Retention Agreement with Ms. Laba as described below. Ms. Laba’s employment with Celladon terminated November 15, 2015.

Potential Payments Upon Termination or Change of Control

Each of Celladon’s named executive officers’ employment was “at will” and could be terminated at any time. Regardless of the manner in which a named executive officer’s service terminates, the named executive officer was entitled to receive amounts earned during his or her term of service, including salary and unused vacation pay. In addition, each of the Celladon named executive officers was eligible to receive certain benefits pursuant to his or her letter agreements with us described above under “—Agreements with the Named Executive Officers.”

Under the terms of the named executive officers’ employment letter agreements with Celladon described above, upon the executive’s termination without “cause,” or resignation for “good reason,” each as defined in the Celladon 2013 plan (as defined below), each of the named executive officers was eligible to receive continued base salary payments and COBRA premium payments for 12 months for Dr. Zsebo and Mr. Cleveland and nine months for Messrs. Wiklund and Jackson and Mses. Reed and Laba. If the named executive officer’s termination without cause or resignation for good reason were to occur within the three month period before or 12 month period following a change of control, as defined under the 2013 Plan, the named executive officer would have been eligible to receive (1) continued base salary payments and COBRA premium payments for 18 months for Dr. Zsebo and Mr. Cleveland and 12 months for Mr. Wiklund and Mses. Reed and Laba, (2) a lump sum payment equal to the named executive officer’s target bonus for the year of termination and (3) full vesting acceleration of all outstanding equity awards that are subject to time-based vesting. All severance benefits under the letter agreements were contingent upon the named executive officer executing an effective release and waiver of claims against us.

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1st Amendments to Employment Agreements

In May 2015, Celladon amended the letter agreements with each of the named executive officers to provide that any cash severance would be paid as a lump sum, as opposed to continued base salary payments as provided in the original terms of the employment letter agreements.

2nd Amendments to Employment Agreements

On September 25, 2015, Celladon's Board of Directors approved modifications to the severance arrangements of Messrs. Cleveland, Wiklund and Jackson and Ms. Reed and Laba, and on October 20, 2015, Celladon entered into an amendment to the employment letter agreement of each such executive officer to memorialize the modified severance arrangements. In connection with Celladon's process of seeking a merger, sale or other disposition of the company, Celladon's Board of Directors deemed it advisable, and in the best interests of Celladon's stockholders, to incentivize Messrs. Cleveland, Wiklund and Jackson and Ms. Reed and Laba to continue their employment with Celladon for an additional period of time. Accordingly, the modified severance arrangements for such executive officers provided certainty that, if terminated by Celladon without "cause" or upon a resignation for "good reason," each executive officer would receive the enhanced severance benefits previously provided for in the event of such a qualifying termination occurring within three months prior to or twelve months following a change of control transaction (including a liquidation of Celladon).

Retention Program

In light of the unfavorable CUPID 2 results, on April 26, 2015, Celladon's Board of Directors approved a reduction of Celladon's full-time workforce and committed to retention payments payable to certain key employees, if such employees remained with Celladon until December 31, 2015 or were terminated by Celladon without cause prior to such date (the "Retention Program"). The Retention Program was amended on May 13, 2015 to add Messrs. Wiklund and Jackson and Ms. Reed and Laba, and on May 27, 2015, Celladon entered into an agreement with each of the foregoing named executive officers (the "Retention Agreements") to memorialize the terms of the amended Retention Program. Under the Retention Agreements, each of Messrs. Wiklund and Jackson and Ms. Reed and Laba was eligible to receive a lump sum retention payment equal to 50% of his or her base salary if such employee remained employed by Celladon until December 31, 2015, or if such employee was terminated by Celladon without cause prior to such date.

Bonus Payments in Lieu of Severance and Retention

Effective November 18, 2015, in conjunction with entering into the Merger Agreement with Eiger, Celladon entered into agreements with each of Messrs. Wiklund and Jackson and Ms. Reed, the sole remaining executive officers and employees of Celladon, providing for a cash bonus payment (an "Executive Bonus Payment") to each of them in an amount equal to the cash severance and retention benefit payments provided in each officer's previously existing employment and Retention Agreements (the "Executive Bonus Agreements"). The Executive Bonus Payment for each officer equaled the cash payment amount that each such officer would have been entitled to under the terms of his or her employment agreement, as amended, and his or her Retention Agreement (collectively, the "Prior Agreements") had such officer been terminated without cause or resigned for good reason (or, with respect to the Retention Agreements, remained employed by Celladon on December 31, 2015), and replaced and superseded each officer's right to any cash severance or retention benefits under the Prior Agreements. Each officer's Executive Bonus Payment was subject to his or her delivery of an effective waiver and release of claims and was paid in late 2015 or early 2016.

Merger Incentive Bonus Program

Also in connection with entering into the Merger Agreement with Eiger, Celladon adopted an incentive bonus program for Messrs. Wiklund and Jackson and Ms. Reed, who were Celladon's then sole remaining employees, pursuant to which they were eligible to receive incentive payments upon the achievement of the

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following key merger-related milestones: (i) filing of the registration statement on Form S-4 in respect of the proposed merger; (ii) mailing of the proxy statement/prospectus/information statement portion of such registration statement on Form S-4 to the Celladon stockholders; and (iii) approval of the Merger by Celladon's stockholders. Subject to achievement and provided that such officer remained employed with Celladon as of the date of such milestone achievement, Mr. Wiklund was eligible to receive a payment of \$50,000 for each milestone, and each of Mr. Jackson and Ms. Reed was eligible to receive a payment of \$40,000 for each milestone. The milestone payments were paid upon achievement of each of the foregoing milestones to each of Messrs. Wiklund and Jackson and Ms. Reed.

Each of the named executive officers held stock options under Celladon's equity incentive plans that were granted subject to the Celladon form of stock option agreements. A description of the termination and change of control provisions in such equity incentive plans and stock options granted thereunder is provided below under "—Equity Benefit Plans" and the specific vesting terms of each named executive officer's stock options are described below under "—Outstanding Equity Awards at Fiscal Year-End."

Celladon's Outstanding Equity Awards at Fiscal Year-End

The following table sets forth certain information regarding equity awards granted to the named executive officers that remained outstanding as of December 31, 2015.

Name	Grant Date	Option Awards (1)			
		Number of securities underlying unexercised options (#) exercisable	Number of securities underlying unexercised options (#) unexercisable	Option exercise price (\$) (2)	Option expiration date
Krisztina M. Zsebo, Ph.D.	7/25/2006	43	—	3,184.95	7/25/2016
Paul B. Cleveland	6/19/2014	18,500	—	216.00	2/18/2016
	1/1/2015	9,333	—	292.95	2/18/2016
Elizabeth E. Reed	3/17/2014	168	198(3)	212.85	3/16/2024
	6/9/2014	1,625	2,708(4)	136.80	6/8/2024
	1/1/2015	—	4,800(5)	292.95	12/31/2024
Fredrik Wiklund	9/25/2009	5	—	3,372.30	9/24/2019
	6/10/2010	2	—	5,245.80	6/9/2020
	6/15/2012	1,921	—	16.86	6/14/2022
	10/9/2013	3,594	—	140.55	10/8/2023
	1/29/2014	651	708(6)	120.00	1/28/2024
	5/28/2014	263	402(7)	138.90	5/27/2024
	1/1/2015	—	5,333(5)	292.95	12/31/2024
Andrew C. Jackson	3/24/2014	583	750(8)	175.20	3/23/2024
	1/1/2015	—	990(5)	292.95	12/31/2024
Rebecque J. Laba	7/25/2006	2	—	3,184.95	7/25/2016
	7/3/2007	2	—	3,372.30	2/14/2016
	9/12/2007	10	—	3,372.30	2/14/2016
	11/13/2007	3	—	3,372.30	2/14/2016
	5/6/2008	3	—	3,372.30	2/14/2016
	3/10/2009	1	—	3,372.30	2/14/2016
	1/14/2010	1	—	3,372.30	2/14/2016
	6/10/2010	6	—	5,245.80	2/14/2016
	1/29/2014	1,459	—	120.00	2/14/2016
	3/19/2014	666	—	188.70	2/14/2016
	1/1/2015	5,333	—	292.95	2/14/2016

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- (1) All of the option awards granted in 2015 and 2014 were granted under the Celladon 2013 plan, the options granted in 2013 and 2012 were granted under the Celladon 2012 plan and all of the option awards granted prior to 2012 were granted under the Celladon 2001 plan, the terms of which plans are described below under “—Equity Benefit Plans.” Except as otherwise indicated, each option award under the Celladon 2012 and 2001 plans is fully exercisable on the date of grant subject to our right to repurchase any exercised shares prior to the vesting date for such shares and all vesting is subject to the executive’s continuous service to us through the vesting dates.
- (2) All of the option awards were granted with a per share exercise price equal to the fair market value of one share of Celladon common stock on the date of grant. Prior to the Celladon initial public offering, fair market value was determined in good faith by the Celladon Board of Directors, often with the assistance of a third-party valuation expert. Stock options granted after the Celladon initial public offering were granted with an exercise price equivalent to the closing price of the Celladon common stock on NASDAQ on the date of grant.
- (3) 1/48th of the shares subject to the option vested on the one month anniversary of the February 25, 2014 vesting commencement date and 1/48th of the shares subject to the option vested in equal monthly installments thereafter such that the option would have been fully vested four years after the vesting commencement date.
- (4) 25% of the shares subject to the option vested on the one year anniversary of the June 9, 2014 vesting commencement date and 1/48th of the shares subject to the option were to vest in equal monthly installments thereafter over the next three years.
- (5) 25% of the shares subject to the option vested on the one year anniversary of the January 1, 2015 vesting commencement date and 1/48th of the shares subject to the option were to vest in equal monthly installments thereafter over the next three years.
- (6) 25% of the shares subject to the option vested on the one year anniversary of the January 29, 2014 vesting commencement date and 1/48th of the shares subject to the option were to vest in equal monthly installments thereafter over the next three years.
- (7) 25% of the shares subject to the option vested on the one year anniversary of the May 28, 2014 vesting commencement date and 1/48th of the shares subject to the option were to vest in equal monthly installments thereafter over the next three years.
- (8) 25% of the shares subject to the option vested on the one year anniversary of the March 24, 2014 vesting commencement date and 1/48th of the shares subject to the option were to vest in equal monthly installments thereafter over the next three years.

Option Repricings

Celladon did not engage in any repricings or other material modifications to any of its named executive officers’ outstanding equity awards during the year ended December 31, 2015.

Perquisites, Health, Welfare and Retirement Benefits

All of Celladon’s named executive officers were eligible to participate in its employee benefit plans, including its medical, dental, vision, life, disability and accidental death and dismemberment insurance plans, in each case on the same basis as all of its other employees. Through November 30, 2015, Celladon paid the premiums for the life, disability, accidental death and dismemberment insurance for all of its employees, including its named executive officers. In addition, during 2014 Celladon provided its named executive officers the ability to participate, on the same basis as all of its employees, in a health reimbursement arrangement under Section 105 of the Internal Revenue Code of 1986, as amended (the “Code”). Celladon provided a 401(k) plan to its employees, including its named executive officers, as discussed in the section below entitled “—401(k) Plan.” All of Celladon’s employee benefit plans, including its medical, dental, vision, life, disability and accidental death and dismemberment insurance, as well as its 401K plan, terminated November 30, 2015. From December 1, 2015 through their respective termination date, Celladon reimbursed Mr. Jackson and Ms. Reed for their family medical insurance premiums.

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Celladon did not provide perquisites or personal benefits to its named executive officers, except for certain commuting expenses paid by Celladon during 2014 on behalf of or directly to Dr. Zsebo.

401(k) Plan

Until December 1, 2015, Celladon maintained a defined contribution employee retirement plan, or 401(k) plan, for its employees. Celladon's named executive officers were eligible to participate in the 401(k) plan on the same basis as its other employees. The 401(k) plan was intended to qualify as a tax-qualified plan under Section 401(k) of the Code. The plan provided that each participant could contribute up to the lesser of 75% of his or her eligible compensation or the statutory limit, which was \$18,000 for calendar year 2015. Participants that are 50 years or older could also make "catch-up" contributions, which in calendar year 2015 may be up to an additional \$6,000 above the statutory limit. Celladon provided an automatic matching contribution as follows: a match of 200% on the first 3% of compensation contributed by a participant and a match of 100% on amounts above 3%, up to 4% of compensation contributed by a participant. In general, eligible compensation for purposes of the 401(k) plan includes an employee's earnings reportable on IRS Form W-2 subject to certain adjustments, limits and exclusions required under the Code. The 401(k) plan did not offer the ability to invest in Celladon's securities. Celladon terminated the 401(k) plan effective November 30, 2015.

Nonqualified Deferred Compensation

None of Celladon's named executive officers participated in or had account balances in nonqualified defined contribution plans or other nonqualified deferred compensation plans maintained by Celladon.

Equity Benefit Plans

2013 Equity Incentive Plan

The Celladon Board of Directors adopted the 2013 Equity Incentive Plan (the "2013 Plan") in September 2013 and the Celladon stockholders approved the 2013 Plan in October 2013, which became effective on January 29, 2014, the date of the final prospectus for the Celladon initial public offering. In October 2013, the Celladon Board of Directors approved an amendment to the 2013 Plan, which the Celladon stockholders approved in November 2013. In January 2014, the Celladon Board of Directors again approved an amendment to the 2013 Plan, which the Celladon stockholders approved in January 2014.

No person may be granted stock awards covering more than 200,000 shares of common stock under the 2013 Plan during any calendar year pursuant to stock options, stock appreciation rights and other stock awards whose value is determined by reference to an increase over an exercise or strike price of at least 100% of the fair market value on the date the stock award is granted. Additionally, no person may be granted in a calendar year a performance stock award covering more than 200,000 shares of common stock or a performance cash award having a maximum value in excess of \$3,000,000. Such limitations are designed to help assure that any deductions to which we would otherwise be entitled with respect to such awards will not be subject to the \$1,000,000 limitation on the income tax deductibility of compensation paid to any covered executive officer imposed by Section 162(m) of the Code.

The Company's Board of Directors, or a duly authorized committee thereof, has the authority to administer the 2013 Plan. The Board of Directors may also delegate to one or more of our officers the authority to (1) designate employees (other than other officers) to be recipients of certain stock awards, and (2) determine the number of shares of common stock to be subject to such stock awards. Subject to the terms of the 2013 Plan, the Board of Directors or the authorized committee, referred to herein as the plan administrator, determines recipients, dates of grant, the numbers and types of stock awards to be granted and the terms and conditions of the stock awards, including the period of their exercisability and vesting schedule applicable to a stock award. Subject to the limitations set forth below, the plan administrator will also determine the exercise price, strike price or purchase price of awards granted and the types of consideration to be paid for the award.

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The plan administrator has the authority to modify outstanding awards under the 2013 Plan. Subject to the terms of the 2013 Plan, the plan administrator has the authority to reduce the exercise, purchase or strike price of any outstanding stock award, cancel any outstanding stock award in exchange for new stock awards, cash or other consideration, or take any other action that is treated as a repricing under generally accepted accounting principles, with the consent of any adversely affected participant.

The plan administrator determines the term of stock options granted under the 2013 Plan, up to a maximum of ten years. Unless the terms of an optionholder's stock option agreement provide otherwise, if an optionholder's service relationship with the Company, or any of the Company's affiliates, ceases for any reason other than disability, death or cause, the optionholder may generally exercise any vested options for a period of three months following the cessation of service. The option term may be extended in the event that exercise of the option following such a termination of service is prohibited by applicable securities laws or our insider trading policy. If an optionholder's service relationship with us or any of the Celladon affiliates ceases due to disability or death, or an optionholder dies within a certain period following cessation of service, the optionholder or a beneficiary may generally exercise any vested options for a period of 12 months in the event of disability and 18 months in the event of death. In the event of a termination for cause, options generally terminate immediately upon the termination of the individual for cause. In no event may an option be exercised beyond the expiration of its term.

Acceptable consideration for the purchase of common stock issued upon the exercise of a stock option will be determined by the plan administrator and may include (1) cash, check, bank draft or money order, (2) a broker-assisted cashless exercise, (3) the tender of shares of our common stock previously owned by the optionholder, (4) a net exercise of the option if it is a nonqualified stock option ("NSO"), and (5) other legal consideration approved by the plan administrator.

Unless the plan administrator provides otherwise, options generally are not transferable except by will, the laws of descent and distribution, or pursuant to a domestic relations order. An optionholder may designate a beneficiary, however, who may exercise the option following the optionholder's death.

The aggregate fair market value, determined at the time of grant, of the Celladon common stock with respect to incentive stock options ("ISOs") that are exercisable for the first time by an optionholder during any calendar year may not exceed \$100,000. Options or portions thereof that exceed such limit will generally be treated as NSOs. No ISO may be granted to any person who, at the time of the grant, owns or is deemed to own stock possessing more than 10% of the Company's total combined voting power or that of any of the Company's affiliates unless (1) the option exercise price is at least 110% of the fair market value of the stock subject to the option on the date of grant, and (2) the term of the ISO does not exceed five years from the date of grant.

The 2013 Plan permits the grant of performance-based stock and cash awards that may qualify as performance-based compensation that is not subject to the \$1,000,000 limitation on the income tax deductibility of compensation paid to a covered executive officer imposed by Section 162(m) of the Code. To help assure that the compensation attributable to performance-based awards will so qualify, the Compensation Committee can structure such awards so that stock or cash will be issued or paid pursuant to such award only after the achievement of certain pre-established performance goals during a designated performance period.

The plan administrator may grant other awards based in whole or in part by reference to our common stock. The plan administrator will set the number of shares under the stock award and all other terms and conditions of such awards.

In the event that there is a specified type of change in the Company's capital structure, such as a stock split or recapitalization, appropriate adjustments will be made to (1) the class and maximum number of shares reserved for issuance under the 2013 Plan, (2) the class and maximum number of shares by which the share reserve may increase automatically each year, (3) the class and maximum number of shares that may be issued upon the exercise of ISOs, (4) the class and maximum number of shares subject to stock awards that can be granted in a calendar year (as established under the 2013 Plan pursuant to Section 162(m) of the Code) and (5) the class and number of shares and exercise price, strike price, or purchase price, if applicable, of all outstanding stock awards.

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In the event of certain specified significant corporate transactions, the plan administrator has the discretion to take any of the following actions with respect to stock awards:

- arrange for the assumption, continuation or substitution of a stock award by a surviving or acquiring entity or parent company;
- arrange for the assignment of any reacquisition or repurchase rights held by the Company to the surviving or acquiring entity or parent company;
- accelerate the vesting of the stock award and provide for its termination prior to the effective time of the corporate transaction;
- arrange for the lapse of any reacquisition or repurchase right held by the Company;
- cancel or arrange for the cancellation of the stock award in exchange for such cash consideration, if any, as the Board of Directors may deem appropriate; or
- make a payment equal to the excess of (1) the value of the property the participant would have received upon exercise of the stock award over (2) the exercise price otherwise payable in connection with the stock award.

The plan administrator is not obligated to treat all stock awards, even those that are of the same type, in the same manner.

Under the 2013 Plan, a corporate transaction is generally the consummation of (1) a sale or other disposition of all or substantially all of the Company's consolidated assets, (2) a sale or other disposition of at least 90% of the Company's outstanding securities, (3) a merger, consolidation or similar transaction following which the Company is not the surviving corporation, or (4) a merger, consolidation or similar transaction following which the Company is the surviving corporation but the shares of the Company's common stock outstanding immediately prior to such transaction are converted or exchanged into other property by virtue of the transaction.

The plan administrator may provide, in an individual award agreement or in any other written agreement between a participant and the Company that the stock award will be subject to additional acceleration of vesting and exercisability in the event of a change of control. For example, certain employees may receive an award agreement that provides for vesting acceleration upon the individual's termination without cause or resignation for good reason (including a material reduction in the individual's base salary, duties, responsibilities or authority, or a material relocation of the individual's principal place of employment with the Company) in connection with a change of control. Under the 2013 Plan, a change of control is generally (1) the acquisition by a person or entity of more than 50% of the Company's combined voting power other than by merger, consolidation or similar transaction; (2) a consummated merger, consolidation or similar transaction immediately after which the Company's stockholders cease to own more than 50% of the combined voting power of the surviving entity; or (3) a consummated sale, lease or exclusive license or other disposition of all or substantially of the Company's consolidated assets.

2012 Equity Incentive Plan

The Celladon Board of Directors and the Celladon stockholders approved the 2012 Equity Incentive Plan (the "2012 Plan"), which became effective in January 2012, and was further amended by the Celladon Board of Directors and stockholders in October 2013. As of December 31, 2015, there were outstanding stock awards under the Celladon 2012 plan covering a total of 8,710 shares of Celladon common stock.

No additional awards will be granted under the 2012 Plan, and all awards granted under the 2012 Plan that are repurchased, forfeited, expire or are cancelled will become available for grant under the 2013 Plan in accordance with its terms.

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The plan administrator has the authority to modify outstanding awards under the 2012 Plan. Subject to the terms of the 2012 Plan, the plan administrator has the authority to reduce the exercise, purchase or strike price of any outstanding stock award, cancel any outstanding stock award in exchange for new stock awards, cash or other consideration, or take any other action that is treated as a repricing under generally accepted accounting principles, with the consent of any adversely affected participant.

Unless the plan administrator provides otherwise, options generally are not transferable except by will, the laws of descent and distribution, or pursuant to a domestic relations order. An optionholder may designate a beneficiary, however, who may exercise the option following the optionholder's death.

In the event that there is a specified type of change in our capital structure, such as a stock split or recapitalization, appropriate adjustments will be made to (a) the class and maximum number of shares reserved for issuance under the 2012 Plan, (b) the class and maximum number of shares that may be issued upon the exercise of ISOs and (c) the class and number of shares and exercise price, strike price, or purchase price, if applicable, of all outstanding stock awards.

Unless otherwise provided in a stock award agreement or other written agreement between the Company and a participant, in the event of certain specified significant corporate transactions, the plan administrator has the discretion to take any of the following actions with respect to stock awards:

- arrange for the assumption, continuation or substitution of a stock award by a surviving or acquiring entity or parent company;
- arrange for the assignment of any reacquisition or repurchase rights held by the Company to the surviving or acquiring entity or parent company;
- accelerate the vesting of the stock award and provide for its termination prior to the effective time of the corporate transaction;
- arrange for the lapse of any reacquisition or repurchase right held by the Company;
- cancel or arrange for the cancellation of the stock award in exchange for such cash consideration, if any, as the Board of Directors may deem appropriate; or
- make a payment equal to the excess of (a) the value of the property the participant would have received upon exercise of the stock award over (b) the exercise price otherwise payable in connection with the stock award.

The plan administrator is not obligated to treat all stock awards, even those that are of the same type, in the same manner.

Under the 2012 Plan, a corporate transaction is generally defined as the consummation of (1) a sale or other disposition of all or substantially all of the Company's consolidated assets, (2) a sale or other disposition of at least 90% of the Company's outstanding securities, (3) a merger, consolidation or similar transaction following which the Company is not the surviving corporation, or (4) a merger, consolidation or similar transaction following which the Company is the surviving corporation but the shares of the Company's common stock outstanding immediately prior to such transaction are converted or exchanged into other property by virtue of the transaction.

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2015 Director Compensation

The following table sets forth in summary form information concerning the compensation that the Company paid or awarded during the year ended December 31, 2015 to each of its non-employee directors:

Name (1)	Fees Earned or Paid in Cash (\$)	Option Awards (\$) (1)	Total (\$)
Gregg Alton (2)	\$ 45,000	\$12,500	\$57,500
Graham Cooper (2)	52,500	12,500	65,000
Joshua Funder, Ph.D (3)	16,174	—	16,174
Michael A. Narachi (2)	75,000	12,500	87,500
Peter Honig, M.D. (2)	43,434	12,500	55,934
Patrick Yang, Ph. D. (4)	16,593	—	16,593

- (1) Amounts listed represent the aggregate grant date fair value of option awards granted during 2015 computed in accordance with ASC 718. Assumptions used in the calculation of these amounts are included in Note 6 to our audited financial statements included in this Annual Report on Form 10-K for the year ended December 31, 2015. These amounts do not reflect the actual economic value that may be realized by the non-employee director upon vesting of the stock options, the exercise of the stock options, or the sale of the common stock underlying such stock options. As of December 31, 2015, the aggregate number of shares outstanding under all options to purchase our common stock held by the Celladon non-employee directors were: Mr. Alton: 2,666; Mr. Cooper: 2,666, Mr. Narachi: 3,333, and Dr. Honig: 1,520.
- (2) Resigned from the Board of Directors on March 22, 2016 in connection with the Merger.
- (3) Dr. Funder did not stand for re-election at Celladon's 2015 annual meeting.
- (4) Dr. Yang resigned from the Celladon Board of Directors in June 2015.

During 2015, the Company's compensation policy for non-employee directors provided for the following:

- an annual cash retainer of \$30,000;
- an additional annual cash retainer of \$25,000 for service as chairman of Celladon's Board of Directors or at the chairman's election, an option to purchase 5,000 shares subject to the terms described below for an annual option grant;
- an additional annual cash retainer of \$7,500, \$5,000, \$5,000 and \$5,000 for service on Celladon's Audit Committee, Compensation Committee, Nominating and Corporate Governance Committee and Research and Development Committee, respectively;
- an additional annual cash retainer of \$10,000, \$7,500, \$5,000 and \$5,000 for service as chairman of the Audit Committee, Compensation Committee, Nominating and Corporate Governance Committee and Research and Development Committee, respectively;
- an automatic annual option grant to purchase 667 shares of Celladon's common stock for each non-employee director serving on the Board of Directors on the date of Celladon's annual stockholder meeting (including by reason of his or her election at such meeting), in each case vesting monthly until our next annual stockholder meeting subject to the director's continued service with the Company (the foregoing grants to non-employee directors joining our Board of Directors other than at an annual stockholder meeting are prorated for the number of months remaining until Celladon's next annual stockholder meeting); and
- upon first joining Celladon's Board of Directors, an automatic initial grant of an option to purchase 667 shares of Celladon's common stock that vests monthly over a three-year period following the grant date subject to the director's continued service with the Company.

Each of the option grants described above vest and become exercisable subject to the director's continuous service with the Company, provided that each option vests in full upon a change of control, as defined under the

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Company's 2013 Equity Incentive Plan. In addition, the post-termination exercise period for each of the option grants described above will be three years from the date of termination of service, if such termination of service is other than for cause subject to the ten-year term of each option. The options were granted under the Company's 2013 Equity Incentive Plan, the terms of which are described in more detail below under "—Equity Benefit Plans—2013 Equity Incentive Plan."

Private Eiger did not have a director compensation policy, and none of Private Eiger's directors, including those that presently serve as directors of the Company, received compensation during the year ended December 31, 2015. However, Private Eiger provided reimbursement for reasonable out of pocket expenses incurred for attending meetings of the Private Eiger board of directors.

ITEM 12. Security Ownership of Certain Beneficial Owners and Management and Related Stockholder Matters

Securities Authorized for Issuance Under Equity Compensation Plans

The following table provides certain information with respect to all of Celladon's equity compensation plans in effect as of December 31, 2015.

Equity Compensation Plan Information

Plan Category	Number of securities to be issued upon exercise of outstanding options, warrants and rights (a)	Weighted-average exercise price of outstanding options, warrants and rights (b)	Number of securities remaining available for issuance under equity compensation plans (excluding securities reflected in column (a)) (c)
Equity compensation plans approved by security holders	73,197	\$ 210.96	157,521
Equity compensation plans not approved by security holders	—	—	—
Total	73,197	\$ 210.96	157,521

Security Ownership of Certain Beneficial Owners The following table sets forth certain information regarding the ownership of the Company's common stock as of March 23, 2016 by: (i) each director; (ii) each named executive officer in the Summary Compensation Table; (iii) all executive officers and directors as a group; and (iv) all those known by the Company to be beneficial owners of more than five percent of its common stock. The following table is based upon information supplied by officers, directors and principal stockholders and Schedules 13D and 13G filed with the SEC. Unless otherwise indicated in the footnotes to this table and subject to community property laws where applicable, the Company believes that each of the stockholders named in this table has sole voting and investment power with respect to the shares indicated as beneficially owned. Applicable percentages are based on 6,945,424 shares outstanding on March 23, 2016, adjusted as required by rules promulgated by the SEC. The address of each named executive officer listed is c/o Celladon Corporation,

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12707 High Bluff Drive, Suite 200, San Diego, California 92130, and the address for each director listed is: c/o Eiger Biopharmaceuticals, Inc., 350 Cambridge Avenue, Suite 350, Palo Alto, CA 94306

Beneficial Owner	Beneficial Ownership	
	Number of Shares	Percent of Total
Greater than 5% stockholders		
Interwest Partners X, L.P.(1) 2710 Sand Hill Road, Second Floor Menlo Park, CA 94025	1,599,593	23.0%
Entities affiliated with Vivo Ventures Fund VI, L.P. (2) 575 High Street, Suite 201 Palo Alto, CA 94301	1,599,592	23.0%
HBM Healthcare Investments (Cayman) Ltd. (3) Governors Square, Suite #4-212-2 23 Lime Tree Bay Avenue West Bay Grand Cayman, Cayman Islands	603,819	8.7%
Directors and Named Executive Officers		
Krisztina M. Zsebo, Ph.D. (4)	43	*
Elizabeth E. Reed (5)	9,511	*
Paul B. Cleveland (6)	—	—
Fredrik Wiklund (7)	14,423	*
Andrew C. Jackson (8)	2,428	*
Rebeceque J. Laba	—	—
David Cory (9)	164,493	2.4%
Edgar Engleman, M.D. (2)	1,599,592	23.0%
Nina Kjellson	—	—
Jeffrey Glenn, M.D., Ph.D. (10)	152,419	2.2%
Thomas Dietz, Ph.D.	—	—
Charles Bramlage	—	—
All current executive officers and directors as a group (10 persons) (11)	1,923,615	27.6%

* Less than one percent.

- (1) Represents 1,599,593 shares held by InterWest Partners X, LP. InterWest Management Partners X, LLC has sole voting and investment control over the shares owned by InterWest X, LP. The Managing Directors and Venture Members of InterWest Management Partners X, LLC have shared voting and investment control over the shares owned by InterWest Partners X, LP. The managing directors of InterWest Management Partners X, LLC are Bruce A. Cleveland, Philip T. Gianos, W. Stephen Holmes, Gilbert H. Kilman and Arnold L. Oronsky and its venture members are Keval Desai and Khaled A. Nasr. Each of the foregoing individuals disclaims beneficial ownership of the shares owned by InterWest Partners X, LP, except to the extent of their pro rata partnership interest therein. Nina Kjellson is a former managing director of InterWest Management Partners X, LLC, and receives consulting fees from InterWest in connection with serving as a member of the board of directors.
- (2) Vivo Ventures Fund VI, L.P. directly holds 1,587,960 shares and Vivo Ventures VI Affiliates Fund, L.P. directly holds 11,632 shares. Vivo Ventures VI, LLC, the sole general partner of both Vivo Ventures Fund VI, L.P. and Vivo Ventures VI Affiliates Fund, L.P., has shared voting power and shared investment power over such securities, may be deemed to beneficially own such shares, and disclaims beneficial ownership of the shares except to the extent of its pecuniary interests therein. Dr. Engleman, a board member, is a managing partner at Vivo Ventures VI, LLC, the general partner of both Vivo Ventures Fund VI, L.P. and Vivo Ventures VI Affiliates Fund, L.P. Dr. Engleman has shared voting or investment power over the shares held by Vivo Ventures Fund VI, L.P. and Vivo Ventures VI Affiliates Fund, L.P. and disclaims beneficial ownership of these shares except to the extent of any pecuniary interest therein.

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- (3) The board of directors of HBM Healthcare Investments (Cayman) Ltd. has sole voting and investment power with respect to the shares held by such entity. The board of directors of HBM Healthcare Investments (Cayman) Ltd. is comprised of Jean-Marc Lesieur, Richard Coles, Sophia Harris, Dr. Andreas Wicki, Paul Woodhouse and John Urquhart, none of whom has individual voting or investment power with respect to these shares.
- (4) Includes 43 shares that Dr. Zsebo has the right to acquire from the Company within 60 days of March 23, 2016 pursuant to the exercise of stock options. Dr. Zsebo's employment terminated as of May 29, 2015.
- (5) Includes 9,511 shares that Ms. Reed has the right to acquire from the Company within 60 days of March 23, 2016 pursuant to the exercise of stock options.
- (6) Mr. Cleveland's employment terminated as of November 19, 2015.
- (7) Includes 14,423 shares that Mr. Wiklund has the right to acquire from the Company within 60 days of March 23, 2016 pursuant to the exercise of stock options.
- (8) Includes 2,428 shares that Mr. Jackson has the right to acquire from the Company within 60 days of March 23, 2016 pursuant to the exercise of stock options.
- (9) Includes 56,889 shares owned directly by Mr. Cory and 11,304 shares that Mr. Cory has the right to acquire from the Company within 60 days of March 23, 2016 pursuant to the exercise of stock options. Additionally includes 96,300 shares held by Eiccose, LLC. As sole managing member of Eiccose, LLC, Mr. Cory has voting and dispositive power over the shares held by Eiccose, LLC. The address for Eiccose, LLC is 1115 Lafayette Street, Santa Clara, CA 95050.
- (10) Includes 1,355 shares owned directly by Dr. Glenn and 151,064 shares held by Eiger Group International, Inc. Dr. Glenn is the Chief Executive Officer of Eiger Group International, Inc. Dr. Glenn has sole power to vote and sole power to dispose of shares directly owned by Eiger Group International, Inc. The address for Eiger Group International, Inc. is 2061 Webster Street, Palo Alto, CA 94301.
- (11) Includes only current directors and executive officers serving in such capacity on the date of the table which, following the merger, consist of Eiger's directors and executive officers. Consists of the shares and stock options held by Mr. Cory, Dr. Engleman, Ms. Kjellson, Dr. Glenn, Dr. Dietz, Mr. Bramlage and shares and stock options held by current executive officers of Eiger not referenced in the table.

ITEM 13. Certain Relationships and Related Party Transactions, and Director Independence

Related-Person Transactions Policy and Procedures

We have adopted a written related-person transactions policy that sets forth our policies and procedures regarding the identification, review, consideration and oversight of "related-person transactions." For purposes of our policy only, a "related-person transaction" is a transaction, arrangement or relationship (or any series of similar transactions, arrangements or relationships) in which we and any "related person" are participants involving an amount that exceeds \$120,000.

Transactions involving compensation for services provided to us as an employee, consultant or director are not considered related-person transactions under this policy. A related person is any executive officer, director or a holder of more than 5% of our common stock, including any of their immediate family members and any entity owned or controlled by such persons.

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Under the policy, where a transaction has been identified as a related-person transaction, management must present information regarding the proposed related-person transaction to our Audit Committee (or, where review by our Audit Committee would be inappropriate, to another independent body of our Board of Directors) for review. The presentation must include a description of, among other things, the material facts, the direct and indirect interests of the related persons, the benefits of the transaction to us and whether any alternative transactions are available. To identify related-person transactions in advance, we rely on information supplied by our executive officers, directors and certain significant stockholders. In considering related-person transactions, our Audit Committee or another independent body of our Board of Directors takes into account the relevant available facts and circumstances including, but not limited to:

- the risks, costs and benefits to us;
- the impact on a director's independence in the event the related person is a director, immediate family member of a director or an entity with which a director is affiliated;
- the terms of the transaction;
- the availability of other sources for comparable services or products; and
- the terms available to or from, as the case may be, unrelated third parties or to or from our employees generally.

In the event a director has an interest in the proposed transaction, the director must recuse himself or herself from the deliberations and approval.

Certain Related-Person Transactions

The following includes a summary of transactions since January 1, 2015 in which the amount involved exceeded or will exceed \$120,000 and in which any of our directors, executive officers, beneficial holders of more than 5% of our capital stock, or entities affiliated with or immediate family members of any of the foregoing, had or will have a direct or indirect material interest

Celladon Related-Person Transactions:

Celladon Investor Agreements

In connection with Celladon's preferred stock financings, Celladon entered into amended and restated investor rights, voting and right of first refusal and co-sale agreements containing voting rights, information rights, rights of first refusal and registration rights, among other things, with certain holders of Celladon's preferred stock and certain holders of Celladon's common stock, including all of the holders of more than 5% of Celladon's capital stock or entities affiliated with them. These stockholder agreements terminated upon the closing of Celladon's initial public offering, except for the amended and restated investor rights agreement which terminates seven years after the closing of Celladon's initial public offering, and contains certain registration rights as more fully described in Celladon's final prospectus for its initial public offering filed with the SEC on January 30, 2014 under the heading "Description of Capital Stock—Registration Rights."

Celladon Employment Arrangements

Celladon had written employment agreements with its executive officers. For information about Celladon's employment agreements with its named executive officers, refer to "Executive Compensation—Agreements with the Named Executive Officers."

Celladon Stock Options Granted to Executive Officers and Directors

Celladon had granted stock options to our executive officers and directors, as more fully described in "Executive Compensation—Outstanding Equity Awards at Fiscal Year-End."

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Celladon Indemnification Agreements

Celladon entered into separate indemnification agreements with the Celladon directors and executive officers, in addition to the indemnification provided for in our amended and restated bylaws. These agreements, among other things, require us to indemnify the former Celladon directors and executive officers for certain expenses, including attorneys' fees, judgments, fines and settlement amounts incurred by a director or executive officer in any action or proceeding arising out of their services as one of Celladon's directors or executive officers or as a director or executive officer of any other company or enterprise to which the person provides services at our request. We believe that these bylaw provisions and indemnification agreements were necessary to attract and retain qualified persons as directors and officers.

The limitation of liability and indemnification provisions in our amended and restated certificate of incorporation and amended and restated bylaws may discourage stockholders from bringing a lawsuit against directors for breach of their fiduciary duties. They may also reduce the likelihood of derivative litigation against directors and officers, even though an action, if successful, might benefit us and our stockholders. A stockholder's investment may decline in value to the extent we pay the costs of settlement and damage awards against directors and officers pursuant to these indemnification provisions.

Eiger Related-Person Transactions:

Eiger Bridge Financing

In November 2015, Eiger entered into a convertible note and warrant purchase agreement, or the Eiger Bridge Financing, in which Eiger issued (i) convertible promissory notes, or the Eiger Bridge Notes, for an aggregate principal amount of \$6.0 million, and (ii) warrants exercisable for shares of Eiger's equity securities at a purchase price of \$0.01 per share. The Eiger Bridge Notes accrue interest at a rate of 6% per year and have a maturity date of March 31, 2016.

The following table summarizes the participation in the Eiger Bridge Financing by holders of more than 5% of Eiger's capital stock and their affiliates.

<u>Name</u>	<u>Aggregate Loan Amount</u>
InterWest Partners X, L.P.(1)	\$2,000,000
Entities affiliated with Vivo Ventures Fund VI, L.P.(2)	\$2,000,000

- (1) Nina Kjellson is a member of Eiger's board of directors who has been designated by InterWest Partners X, L.P.
(2) Includes Vivo Ventures Fund VI, L.P. and Vivo Ventures VI Affiliates Fund L.P. Edgar Engleman is a member of Eiger's board of directors who has been designated by Vivo Ventures Fund VI, L.P.

Series A-1 Preferred Stock Financing

In April 2011, Eiger entered into a Series A-1 preferred stock purchase agreement, pursuant to which Eiger issued and sold, in a series of closings, an aggregate of 24,935,950 shares of Eiger's Series A-1 Preferred Stock at a price of \$0.58 per share.

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The following table summarizes the participation in the Series A-1 convertible preferred stock financing by holders of more than 5% of Eiger's capital stock and their affiliates. The shares of Series A-1 convertible preferred stock of Private Eiger converted into shares of the Company at the closing of the Merger at an exchange ratio of approximately 0.09 shares of common stock of the Company for each share of Private Eiger.

<u>Name</u>	<u>Shares of Series A-1 Preferred</u>	<u>Aggregate Purchase Price</u>
InterWest Partners X, L.P.(1)	11,189,654	\$ 6,489,999.32
Entities Affiliated with Vivo Ventures(2)	11,189,654	\$ 6,489,999.32

- (1) Nina Kjellson is a member of Eiger's board of directors who has been designated by InterWest Partners X, L.P.
(2) Consists of (a) 11,108,277 shares purchased by Vivo Ventures Fund VI, L.P. and (b) 81,377 shares purchased by Vivo Ventures VI Affiliates Fund, L.P. Edgar Engleman is a member of Eiger's board of directors who has been designated by Vivo Ventures Fund VI, L.P.

Eiger Subscription Agreement

Certain holders of more than 5% of Eiger's capital stock are parties to a Subscription Agreement, dated November 18, 2015, pursuant to which on March 22, 2016 such holders each purchased shares of Eiger common stock for an aggregate purchase price in excess of \$120,000. The table below sets forth the number of shares of Eiger common stock that such 5% holders purchased and the aggregate purchase price for such shares.

<u>Name of Purchaser</u>	<u>Aggregate Purchase Price</u>	<u>Number of Shares of Eiger Common Stock</u>
HBM Healthcare Investments (Cayman) Ltd	\$ 10,000,000	583,401
InterWest Partners X, L.P.(1)	\$ 7,000,000	408,380
Entities Affiliated with Vivo Ventures Fund VI, L.P.(2)	\$ 7,000,000	408,380

- (1) Nina Kjellson is a member of Eiger's board of directors who has been designated by InterWest Partners X, L.P.
(2) Consists of (a) 405,411 shares to be purchased by Vivo Ventures Fund VI, L.P. and (b) 2,969 shares to be purchased by Vivo Ventures VI Affiliates Fund, L.P. Edgar Engleman is a member of Eiger's board of directors who has been designated by Vivo Ventures Fund VI, L.P.

Eiccose Asset Purchase Agreement

In October 2015, Eiger entered into an Asset Purchase Agreement with Eiccose (the "Eiccose APA"). David Cory, the President, Chief Executive Officer and a director of Eiger, is the sole managing member and significant equity interest holder of Eiccose.

Under the Eiccose APA, Eiger purchased all intellectual property rights with respect to ubenimex from Eiccose. Specifically, under the Eiccose APA, Eiccose assigned to Eiger the exclusive license agreement regarding ubenimex between Eiccose and Nippon Kayaku Co., Ltd., or the NK License. Eiger also purchased intellectual property rights related to Stanford Docket S11-438—Pulmonary Arterial Hypertension and Stanford Docket S14-323—Lymphedema, and Eiccose assigned to Eiger the exclusive license agreements between Eiccose and the Board of Trustees of Stanford regarding these two Stanford Dockets, or the Stanford Licenses.

Under the terms of the Eiccose APA, at the closing of the financing on March 22, 2016 pursuant to the Subscription Agreement referenced above, Eiger issued to Eiccose 96,300 fully vested shares of Eiger common

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stock. Under the terms of the Eiccose APA, Eiger is further required to pay Eiccose milestone payments totaling up to \$10.0 million after achievement of specified milestones. Eiger is also required to pay Eiccose royalties at a rate in the low single digits based on the net sales of the first pharmaceutical product sold to an independent third party that contains or uses ubenimex.

Under the Eiccose APA, Eiger also paid to Eiccose a total of \$119,673, representing reimbursement of certain specified expenses, including payments and accrued amounts owed under the Stanford Licenses for previously incurred patent expenses and costs related to the negotiation and assignment of the Stanford Licenses.

ITEM 14. Principal Accounting Fees and Services

The following table represents aggregate fees billed to Celladon for the fiscal years ended December 31, 2015 and December 31, 2014, by Ernst & Young, Celladon's principal accountant.

	Fiscal Year Ended	
	2015	2014
Audit Fees (1)	\$205,743	\$333,023
Audit-related Fees (2)	35,000	22,300
Tax Fees (3)	42,900	60,144
All Other Fees(4)	1,970	1,995
Total Fees	\$285,613	\$417,462

- (1) Audit fees consist of fees billed for professional services by Ernst & Young for audit and quarterly review of Celladon's financial statements and review of our registration statement for Celladon's initial public offering, and related services that are normally provided in connection with statutory and regulatory filings or engagements.
- (2) Audit-Related Fees include services relating to accounting consultations and reviews and due diligence services.
- (3) Tax Fees include services relating to tax compliance, tax advice, and tax planning in the United States and Europe.
- (4) Includes amounts billed for annual subscription to Ernst and Young LLP's online resource library.

All fees described above were pre-approved by the Celladon Audit Committee.

Pre-Approval Policies and Procedures

The Audit Committee has adopted a policy and procedures for the pre-approval of audit and non-audit services rendered by the Company's independent registered public accounting firm, Ernst & Young. The policy generally pre-approves specified services in the defined categories of audit services, audit-related services and tax services up to specified amounts. Pre-approval may also be given as part of the Audit Committee's approval of the scope of the engagement of the independent auditor or on an individual, explicit, case-by-case basis before the independent auditor is engaged to provide each service. The pre-approval of services may be delegated to one or more of the Audit Committee's members, but the decision must be reported to the full Audit Committee at its next scheduled meeting.

The Audit Committee has determined that the rendering of services other than audit services by Ernst & Young is compatible with maintaining the principal accountant's independence.

PART IV

ITEM 15. Exhibits and Financial Statement Schedules

(a) Financial Statements and Financial Statement Schedules

1. Financial Statements:

The financial statements of Celladon Corporation listed below are set forth in Item 8 of this Report for the year ended December 31, 2015:

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Report of Independent Registered Public Accounting Firm	89
Consolidated Balance Sheets	90
Consolidated Statements of Operations and Comprehensive Loss	91
Consolidated Statements of Preferred Stock and Stockholders' Equity (Deficit)	92
Consolidated Statements of Cash Flows	93
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2. Financial Statement Schedules:

All other schedules are omitted because they are not applicable or the required information is shown in the financial statements or notes thereto.

(b) Exhibits

<u>Exhibit Number</u>	<u>Description of Document</u>
2.1	Agreement and Plan of Merger and Reorganization, dated as of November 18, 2015, by and among Celladon Corporation, Celladon Merger Sub, Inc., and Eiger BioPharmaceuticals, Inc. (incorporated by reference to Exhibit 2.1 to the Current Report on Form 8-K filed with the SEC on November 19, 2015).
3.1	Amended and Restated Certificate of Incorporation of Celladon Corporation (incorporated by reference to Exhibit 3.1 to the Current Report on Form 8-K of Celladon Corporation, filed with the SEC on February 10, 2014).
3.2	Amended and Restated Bylaws of Celladon Corporation (incorporated by reference to Exhibit 3.2 to the Current Report on Form 8-K, filed with the SEC on February 10, 2014).
3.3	Certificate of Amendment of Amended and Restated Certificate of Incorporation of Celladon Corporation (incorporated by reference to Annex D to the Registration Statement on Form S-4, as amended (File No. 333-208521), originally filed with the SEC on December 14, 2015).
3.4	Certificate of Amendment of Amended and Restated Certificate of Incorporation of Celladon Corporation (incorporated by reference to Annex E to the Registration Statement on Form S-4, as amended (File No. 333-208521), originally filed with the SEC on December 14, 2015).
4.1	Form of Common Stock Certificate (incorporated by reference to Exhibit 4.1 to the Registration Statement on Form S-1, as amended (File No. 333-191688), originally filed with the SEC on October 29, 2013).
4.2	Amended and Restated Investor Rights Agreement by and among Celladon Corporation and certain of its stockholders, dated February 4, 2014 (incorporated by reference to Exhibit 4.2 to the Registration Statement on Form S-1, as amended (File No. 333-191688), originally filed with the SEC on October 11, 2013).
4.3	Form of Warrant to Purchase Common Stock issued to participants in Celladon Corporation's Convertible Debt and Warrant financing, dated October 15, 2013 (incorporated by reference to Exhibit 4.3 to the Registration Statement on Form S-1, as amended (File No. 333-191688), originally filed with the SEC on October 11, 2013).

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<u>Exhibit Number</u>	<u>Description of Document</u>
10.1+	Form of Indemnity Agreement by and between Celladon Corporation and its directors and officers (incorporated by reference to Exhibit 10.1 to the Registration Statement on Form S-1, as amended (File No. 333-191688), originally filed with the SEC on October 11, 2013).
10.2+	Celladon Corporation 2001 Stock Option Plan and Form of Notice of Grant of Stock Option, Stock Option Agreement and Stock Option Exercise Notice thereunder (incorporated by reference to Exhibit 10.2 to the Registration Statement on Form S-1, as amended (File No. 333-191688), originally filed with the SEC on October 11, 2013).
10.3+	Celladon Corporation 2012 Equity Incentive Plan and Form of Stock Option Grant Notice, Option Agreement and Notice of Exercise thereunder (incorporated by reference to Exhibit 10.3 to the Registration Statement on Form S-1, as amended (File No. 333-191688), originally filed with the SEC on October 11, 2013).
10.4+	Celladon Corporation 2013 Equity Incentive Plan and Form of Stock Option Grant Notice, Option Agreement and Notice of Exercise thereunder (incorporated by reference to Exhibit 10.4 to the Registration Statement on Form S-1, as amended (File No. 333-191688), originally filed with the SEC on October 11, 2013).
10.5+	Celladon Corporation 2013 Employee Stock Purchase Plan (incorporated by reference to Exhibit 10.5 to the Registration Statement on Form S-1, as amended (File No. 333-191688), originally filed with the SEC on October 11, 2013).
10.6+	Celladon Corporation Non-Employee Director Compensation Policy (incorporated by reference to Exhibit 10.6 to the Registration Statement on Form S-1, as amended (file No. 333-191688), originally filed with the SEC on October 11, 2013).
10.7+	Employment Agreement by and between Celladon Corporation and Fredrik Wiklund, dated September 3, 2013, as amended (incorporated by reference to Exhibit 10.10 to the Registration Statement on Form S-1, as amended (File No. 333-191688), originally filed with the SEC on October 11, 2013).
10.8+	Employment Agreement by and between Celladon Corporation and Krisztina M. Zsebo, Ph.D., dated August 30, 2013, as amended (incorporated by reference to Exhibit 10.11 to the Registration Statement on Form S-1, as amended (File No. 333-191688), originally filed with the SEC on October 11, 2013).
10.9+	Letter Agreement by and between Celladon Corporation and Gregg Huber Alton, dated August 30, 2013 (incorporated by reference to Exhibit 10.12 to the Registration Statement on Form S-1, as amended (File No. 333-191688), originally filed with the SEC on October 11, 2013).
10.10+	Letter Agreement by and between Celladon Corporation and Graham Cooper, dated September 2, 2013 (incorporated by reference to Exhibit 10.13 to the Registration Statement on Form S-1, as amended (File No. 333-191688), originally filed with the SEC on October 11, 2013).
10.11	Office Lease by and between Celladon Corporation and Arden Realty, Inc., dated March 6, 2012, as amended (incorporated by reference to Exhibit 10.14 to the Registration Statement on Form S-1, as amended (File No. 333-191688), originally filed with the SEC on October 11, 2013).
10.12†	Non-Exclusive License Agreement by and between Celladon Corporation and AskBio, LLC, dated January 15, 2008 (incorporated by reference to Exhibit 10.17 to the Registration Statement on Form S-1, as amended (File No. 333-191688), originally filed with the SEC on October 11, 2013).
10.13	License Agreement by and between Celladon Corporation and AdVec Inc., dated February 24, 2009 (incorporated by reference to Exhibit 10.18 to the Registration Statement on Form S-1, as amended (File No. 333-191688), originally filed with the SEC on October 11, 2013).

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<u>Exhibit Number</u>	<u>Description of Document</u>
10.14†	Amended and Restated License Agreement by and between Celladon Corporation and AmpliPhi Biosciences Corporation, dated June 27, 2012 (incorporated by reference to Exhibit 10.21 to the Registration Statement on Form S-1, as amended (File No. 333-191688), originally filed with the SEC on October 11, 2013).
10.15†	Sublicense Agreement by and between Celladon Corporation and AmpliPhi Biosciences Corporation, dated June 27, 2012 (incorporated by reference to Exhibit 10.22 to the Registration Statement on Form S-1, as amended (File No. 333-191688), originally filed with the SEC on October 11, 2013).
10.16+	Letter Agreement by and between Celladon Corporation and Michael Narachi, dated October 16, 2013 (incorporated by reference to Exhibit 10.24 to the Registration Statement on Form S-1, as amended (File No. 333-191688), originally filed with the SEC on October 11, 2013).
10.17	Assignment and License Agreement by and between Celladon Corporation and Enterprise Management Partners, LLC dated July 18, 2014 (incorporated by reference to Exhibit 99.1 to the Current Report on Form 8-K filed with the SEC on July 21, 2014).
10.18+	Employment Agreement by and between Celladon Corporation and Paul Cleveland, dated May 28, 2014 (incorporated by reference to Exhibit 10.28 to the Registration Statement on Form S-1 (File No. 333-197720), originally filed with the SEC on July 30, 2014).
10.19+	Employment Agreement by and between Celladon Corporation and Elizabeth Reed, dated May 30, 2014 (incorporated by reference to Exhibit 10.29 to the Registration Statement on Form S-1 (File No. 333-197720), originally filed with the SEC on July 30, 2014).
10.20+	Summary of Retention Program of Celladon Corporation (incorporated by reference to Exhibit 10.1 to the Quarterly Report on Form 10-Q, filed with the SEC on August 11, 2015).
10.21+	Amendment to Employment Agreement, dated May 27, 2015, by and between Celladon Corporation and Andrew Jackson (incorporated by reference to Exhibit 10.2 to the Quarterly Report on Form 10-Q, filed with the SEC on August 11, 2015).
10.22+	Amendment to Employment Agreement, dated May 29, 2015, by and between Celladon Corporation and Andrew Jackson (incorporated by reference to Exhibit 10.3 to the Quarterly Report on Form 10-Q, filed with the SEC on August 11, 2015).
10.23+	Amendment to Employment Agreement, dated May 29, 2015, by and between Celladon Corporation and Paul Cleveland (incorporated by reference to Exhibit 10.4 to the Quarterly Report on Form 10-Q, filed with the SEC on August 11, 2015).
10.24+	Amendment to Employment Agreement, dated May 27, 2015, by and between Celladon Corporation and Elizabeth Reed (incorporated by reference to Exhibit 10.5 to the Quarterly Report on Form 10-Q, filed with the SEC on August 11, 2015).
10.25+	Amendment to Employment Agreement, dated May 27, 2015, by and between Celladon Corporation and Fredrik Wiklund (incorporated by reference to Exhibit 10.6 to the Quarterly Report on Form 10-Q, filed with the SEC on August 11, 2015).
10.26+	Amendment to Employment Agreement, dated May 27, 2015, by and between Celladon Corporation and Rebecque Laba (incorporated by reference to Exhibit 10.8 to the Quarterly Report on Form 10-Q, filed with the SEC on August 11, 2015).
10.27+	Amendment to Employment Agreement, dated May 27, 2015, by and between Celladon Corporation and Krisztina M. Zsebo (incorporated by reference to Exhibit 10.10 to the Quarterly Report on Form 10-Q, filed with the SEC on August 11, 2015).

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<u>Exhibit Number</u>	<u>Description of Document</u>
10.28+	Release Agreement, dated May 29, 2015, by and between Celladon Corporation and Krisztina M. Zsebo (incorporated by reference to Exhibit 10.11 to the Quarterly Report on Form 10-Q, filed with the SEC on August 11, 2015).
10.29+	Amendment to Employment Agreement, dated October 20, 2015, by and between Celladon Corporation and Paul Cleveland (incorporated by reference to Exhibit 10.2 to the Quarterly Report on Form 10-Q, filed with the SEC on November 9, 2015).
10.30+	Amendment to Employment Agreement, dated October 20, 2015, by and between Celladon Corporation and Andrew Jackson (incorporated by reference to Exhibit 10.3 to the Quarterly Report on Form 10-Q, filed with the SEC on November 9, 2015).
10.31+	Amendment to Employment Agreement, dated October 20, 2015, by and between Celladon Corporation and Elizabeth Reed (incorporated by reference to Exhibit 10.5 to the Quarterly Report on Form 10-Q, filed with the SEC on November 9, 2015).
10.32+	Amendment to Employment Agreement, dated October 20, 2015, by and between Celladon Corporation and Fredrik Wiklund (incorporated by reference to Exhibit 10.6 to the Quarterly Report on Form 10-Q, filed with the SEC on November 9, 2015).
10.33+	Amendment to Employment Agreement, dated October 20, 2015, by and between Celladon Corporation and Rebecque Laba (incorporated by reference to Exhibit 10.4 to the Quarterly Report on Form 10-Q, filed with the SEC on November 9, 2015).
10.34+	Bonus Agreement, dated as of November 18, 2015, by and between Celladon Corporation and Fredrik Wiklund (incorporated by reference to Exhibit 10.1 to the Current Report on Form 8-K, filed with the SEC on November 19, 2015).
10.35+	Bonus Agreement, dated as of November 18, 2015, by and between Celladon Corporation and Andrew Jackson (incorporated by reference to Exhibit 10.2 to the Current Report on Form 8-K, filed with the SEC on November 19, 2015).
10.36+	Bonus Agreement, dated as of November 18, 2015, by and between Celladon Corporation and Elizabeth Reed (incorporated by reference to Exhibit 10.3 to the Current Report on Form 8-K, filed with the SEC on November 19, 2015).
10.37+	Merger Incentive Bonus Agreement, effective as of November 18, 2015, by and between Celladon Corporation and Fredrik Wiklund (incorporated by reference to Exhibit 10.35 to the Registration Statement on Form S-4, as amended (File No. 333-208521), originally filed with the SEC on December 14, 2015).
10.38+	Merger Incentive Bonus Agreement, effective as of November 18, 2015, by and between Celladon Corporation and Andrew Jackson (incorporated by reference to Exhibit 10.35 to the Registration Statement on Form S-4, as amended (File No. 333-208521), originally filed with the SEC on December 14, 2015).
10.39+	Merger Incentive Bonus Agreement, effective as of November 18, 2015, by and between Celladon Corporation and Elizabeth Reed (incorporated by reference to Exhibit 10.37 to the Registration Statement on Form S-4, as amended (File No. 333-208521), originally filed with the SEC on December 14, 2015).
10.40	Lease, dated as of March 19, 2015 by and between JTC, a California general partnership and Eiger BioPharmaceuticals, Inc. (incorporated by reference to Exhibit 10.38 to the Registration Statement on Form S-4, as amended (File No. 333-208521), originally filed with the SEC on December 14, 2015).

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<u>Exhibit Number</u>	<u>Description of Document</u>
10.41+	Offer Letter, dated as of December 5, 2008, by and between Eiger BioPharmaceuticals, Inc. and David Cory (incorporated by reference to Exhibit 10.39 to the Registration Statement on Form S-4, as amended (File No. 333-208521), originally filed with the SEC on December 14, 2015).
10.42+	Offer Letter, dated as of August 10, 2015, by and between Eiger BioPharmaceuticals, Inc. and James Welch (incorporated by reference to Exhibit 10.40 to the Registration Statement on Form S-4, as amended (File No. 333-208521), originally filed with the SEC on December 14, 2015).
10.43+	Offer Letter, dated as of July 31, 2015, by and between Eiger BioPharmaceuticals, Inc. and James Shaffer (incorporated by reference to Exhibit 10.41 to the Registration Statement on Form S-4, as amended (File No. 333-208521), originally filed with the SEC on December 14, 2015).
10.44+	Offer Letter, dated as of April 3, 2015, by and between Eiger BioPharmaceuticals, Inc. and Joanne Quan (incorporated by reference to Exhibit 10.42 to the Registration Statement on Form S-4, as amended (File No. 333-208521), originally filed with the SEC on December 14, 2015).
10.45+	Offer Letter, dated as of October 1, 2015, by and between Eiger BioPharmaceuticals, Inc. and Eduardo Martins (incorporated by reference to Exhibit 10.43 to the Registration Statement on Form S-4, as amended (File No. 333-208521), originally filed with the SEC on December 14, 2015).
10.46+	Eiger BioPharmaceuticals, Inc. 2009 Equity Incentive Plan and Form of Notice of Grant of Stock Option, Stock Option Agreement and Stock Option Exercise Notice thereunder (incorporated by reference to Exhibit 10.44 to the Registration Statement on Form S-4, as amended (File No. 333-208521), originally filed with the SEC on December 14, 2015).
10.47†	Asset Purchase Agreement, effective as of December 8, 2010, by and between Eiger BioPharmaceuticals, Inc. and Eiger Group International, Inc. (incorporated by reference to Exhibit 10.45 to the Registration Statement on Form S-4, as amended (File No. 333-208521), originally filed with the SEC on December 14, 2015).
10.48†	Asset Purchase Agreement, dated September 25, 2015, by and between Eiger BioPharmaceuticals, Inc. and Tracey McLaughlin and Colleen Craig (incorporated by reference to Exhibit 10.46 to the Registration Statement on Form S-4, as amended (File No. 333-208521), originally filed with the SEC on December 14, 2015).
10.49†	Asset Purchase Agreement, dated October 29, 2015, by and between Eiccoase, LLC and Eiger BioPharmaceuticals, Inc. (incorporated by reference to Exhibit 10.47 to the Registration Statement on Form S-4, as amended (File No. 333-208521), originally filed with the SEC on December 14, 2015).
10.50†	Exclusive Agreement, dated May 1, 2015, by and between Eiccoase, LLC and the Board of Trustees of the Leland Stanford Junior University (incorporated by reference to Exhibit 10.48 to the Registration Statement on Form S-4, as amended (File No. 333-208521), originally filed with the SEC on December 14, 2015).
10.51†	Exclusive Agreement, dated October 27, 2015, by and between Eiccoase, LLC and the Board of Trustees of the Leland Stanford Junior University (incorporated by reference to Exhibit 10.49 to the Registration Statement on Form S-4, as amended (File No. 333-208521), originally filed with the SEC on December 14, 2015).
10.52†	License Agreement, dated September 3, 2010, by and between Eiger BioPharmaceuticals, Inc. and Merck Corporation (incorporated by reference to Exhibit 10.50 to the Registration Statement on Form S-4, as amended (File No. 333-208521), originally filed with the SEC on December 14, 2015).

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<u>Exhibit Number</u>	<u>Description of Document</u>
10.53†	License Agreement, effective as of December 19, 2014, by and between EB Pharma, LLC and Janssen Pharmaceutica NV (incorporated by reference to Exhibit 10.51 to the Registration Statement on Form S-4, as amended (File No. 333-208521), originally filed with the SEC on December 14, 2015).
10.54†	License Agreement, dated as of May 1, 2015, by and between Eiccose, LLC and Nippon Kayaku Co., Ltd. (incorporated by reference to Exhibit 10.52 to the Registration Statement on Form S-4, as amended (File No. 333-208521), originally filed with the SEC on December 14, 2015).
10.55	Sublease Agreement, dated as of January 8, 2016, by and between Baker Hughes Oilfield Operations, Inc. and Eiger BioPharmaceuticals, Inc. (incorporated by reference to Exhibit 10.53 to the Registration Statement on Form S-4, as amended (File No. 333-208521), originally filed with the SEC on December 14, 2015).
21.1	List of subsidiaries.
23.1	Consent of Independent Registered Public Accounting Firm.
24.1	Power of Attorney. Reference is made to the signature page hereto.
31.1	Certification of the Principal Executive Officer pursuant to Rule 13a-14(a) or 15d-14(a) of the Securities Exchange Act of 1934.
31.2	Certification of the Principal Financial Officer pursuant to Rule 13a-14(a) or 15d-14(a) of the Securities Exchange Act of 1934.
32.1	Certification of the Principal Executive Officer pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002.
32.2	Certification of the Principal Financial Officer pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002.
101.INS	XBRL Instance Document
101.SCH	XBRL Taxonomy Extension Schema Document
101.CAL	XBRL Taxonomy Extension Calculation Linkbase Document
101.DEF	XBRL Taxonomy Extension Definition Linkbase Document
101.LAB	XBRL Taxonomy Extension Label Linkbase Document
101.PRE	XBRL Taxonomy Extension Presentation Linkbase Document

+ Indicates management contract or compensatory plan.

† Confidential treatment has been granted with respect to certain portions of this exhibit. Omitted portions have been filed separately with the SEC.

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SIGNATURES

Pursuant to the requirements of Section 13 or 15(d) of the Securities Exchange Act of 1934, the Registrant has duly caused this report to be signed on its behalf by the undersigned, thereunto duly authorized.

Eiger BioPharmaceuticals, Inc.

Date: March 30, 2016

By: /s/ James Welch
James Welch
Chief Financial Officer

KNOW ALL PERSONS BY THESE PRESENTS, that each person whose signature appears below constitutes and appoints David Cory and James Welch, and each of them, as his or her attorneys-in-fact, with the power of substitution, for him or her in any and all capacities, to sign any amendments to this report, and to file the same, with exhibits thereto and other documents in connection therewith with the Securities and Exchange Commission, hereby ratifying and confirming all that said attorneys-in-fact, and each of them, or his or her substitute or substitutes may do or cause to be done by virtue hereof.

Pursuant to the requirements of the Securities Exchange Act of 1934, this report has been signed below by the following persons on behalf of the Registrant in the capacities and on the dates indicated:

<u>Signature</u>	<u>Title</u>	<u>Date</u>
<u>/s/ David A. Cory</u> David Cory	President and Chief Executive Officer <i>(Principal Executive Officer)</i>	March 30, 2016
<u>/s/ James Welch</u> James Welch	Chief Financial Officer <i>(Principal Financial and Accounting Officer)</i>	March 30, 2016
<u>/s/ Thomas J. Dietz</u> Thomas J. Dietz	Chairman of the Board of Directors	March 30, 2016
<u>Edgar G. Engleman</u>	Member of the Board of Directors	March 30, 2016
<u>/s/ Nina Kjellson</u> Nina Kjellson	Member of the Board of Directors	March 30, 2016
<u>/s/ Jeffrey S. Glenn</u> Jeffrey S. Glenn	Member of the Board of Directors	March 30, 2016
<u>/s/ Charles Bramlage</u> Charles Bramlage	Member of the Board of Directors	March 30, 2016

INDEX TO EXHIBITS

<u>Exhibit Number</u>	<u>Description of Document</u>
2.1	Agreement and Plan of Merger and Reorganization, dated as of November 18, 2015, by and among Celladon Corporation, Celladon Merger Sub, Inc., and Eiger BioPharmaceuticals, Inc. (incorporated by reference to Exhibit 2.1 to the Current Report on Form 8-K filed with the SEC on November 19, 2015).
3.1	Amended and Restated Certificate of Incorporation of Celladon Corporation (incorporated by reference to Exhibit 3.1 to the Current Report on Form 8-K of Celladon Corporation, filed with the SEC on February 10, 2014).
3.2	Amended and Restated Bylaws of Celladon Corporation (incorporated by reference to Exhibit 3.2 to the Current Report on Form 8-K, filed with the SEC on February 10, 2014).
3.3	Certificate of Amendment of Amended and Restated Certificate of Incorporation of Celladon Corporation (incorporated by reference to Annex D to the Registration Statement on Form S-4, as amended (File No. 333-208521), originally filed with the SEC on December 14, 2015).
3.4	Certificate of Amendment of Amended and Restated Certificate of Incorporation of Celladon Corporation (incorporated by reference to Annex E to the Registration Statement on Form S-4, as amended (File No. 333-208521), originally filed with the SEC on December 14, 2015).
4.1	Form of Common Stock Certificate (incorporated by reference to Exhibit 4.1 to the Registration Statement on Form S-1, as amended (File No. 333-191688), originally filed with the SEC on October 29, 2013).
4.2	Amended and Restated Investor Rights Agreement by and among Celladon Corporation and certain of its stockholders, dated February 4, 2014 (incorporated by reference to Exhibit 4.2 to the Registration Statement on Form S-1, as amended (File No. 333-191688), originally filed with the SEC on October 11, 2013).
4.3	Form of Warrant to Purchase Common Stock issued to participants in Celladon Corporation's Convertible Debt and Warrant financing, dated October 15, 2013 (incorporated by reference to Exhibit 4.3 to the Registration Statement on Form S-1, as amended (File No. 333-191688), originally filed with the SEC on October 11, 2013).
10.1+	Form of Indemnity Agreement by and between Celladon Corporation and its directors and officers (incorporated by reference to Exhibit 10.1 to the Registration Statement on Form S-1, as amended (File No. 333-191688), originally filed with the SEC on October 11, 2013).
10.2+	Celladon Corporation 2001 Stock Option Plan and Form of Notice of Grant of Stock Option, Stock Option Agreement and Stock Option Exercise Notice thereunder (incorporated by reference to Exhibit 10.2 to the Registration Statement on Form S-1, as amended (File No. 333-191688), originally filed with the SEC on October 11, 2013).
10.3+	Celladon Corporation 2012 Equity Incentive Plan and Form of Stock Option Grant Notice, Option Agreement and Notice of Exercise thereunder (incorporated by reference to Exhibit 10.3 to the Registration Statement on Form S-1, as amended (File No. 333-191688), originally filed with the SEC on October 11, 2013).
10.4+	Celladon Corporation 2013 Equity Incentive Plan and Form of Stock Option Grant Notice, Option Agreement and Notice of Exercise thereunder (incorporated by reference to Exhibit 10.4 to the Registration Statement on Form S-1, as amended (File No. 333-191688), originally filed with the SEC on October 11, 2013).
10.5+	Celladon Corporation 2013 Employee Stock Purchase Plan (incorporated by reference to Exhibit 10.5 to the Registration Statement on Form S-1, as amended (File No. 333-191688), originally filed with the SEC on October 11, 2013).
10.6+	Celladon Corporation Non-Employee Director Compensation Policy (incorporated by reference to Exhibit 10.6 to the Registration Statement on Form S-1, as amended (file No. 333-191688), originally filed with the SEC on October 11, 2013).

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<u>Exhibit Number</u>	<u>Description of Document</u>
10.7+	Employment Agreement by and between Celladon Corporation and Fredrik Wiklund, dated September 3, 2013, as amended (incorporated by reference to Exhibit 10.10 to the Registration Statement on Form S-1, as amended (File No. 333-191688), originally filed with the SEC on October 11, 2013).
10.8+	Employment Agreement by and between Celladon Corporation and Krisztina M. Zsebo, Ph.D., dated August 30, 2013, as amended (incorporated by reference to Exhibit 10.11 to the Registration Statement on Form S-1, as amended (File No. 333-191688), originally filed with the SEC on October 11, 2013).
10.9+	Letter Agreement by and between Celladon Corporation and Gregg Huber Alton, dated August 30, 2013 (incorporated by reference to Exhibit 10.12 to the Registration Statement on Form S-1, as amended (File No. 333-191688), originally filed with the SEC on October 11, 2013).
10.10+	Letter Agreement by and between Celladon Corporation and Graham Cooper, dated September 2, 2013 (incorporated by reference to Exhibit 10.13 to the Registration Statement on Form S-1, as amended (File No. 333-191688), originally filed with the SEC on October 11, 2013).
10.11	Office Lease by and between Celladon Corporation and Arden Realty, Inc., dated March 6, 2012, as amended (incorporated by reference to Exhibit 10.14 to the Registration Statement on Form S-1, as amended (File No. 333-191688), originally filed with the SEC on October 11, 2013).
10.12†	Non-Exclusive License Agreement by and between Celladon Corporation and AskBio, LLC, dated January 15, 2008 (incorporated by reference to Exhibit 10.17 to the Registration Statement on Form S-1, as amended (File No. 333-191688), originally filed with the SEC on October 11, 2013).
10.13	License Agreement by and between Celladon Corporation and AdVec Inc., dated February 24, 2009 (incorporated by reference to Exhibit 10.18 to the Registration Statement on Form S-1, as amended (File No. 333-191688), originally filed with the SEC on October 11, 2013).
10.14†	Amended and Restated License Agreement by and between Celladon Corporation and AmpliPhi Biosciences Corporation, dated June 27, 2012 (incorporated by reference to Exhibit 10.21 to the Registration Statement on Form S-1, as amended (File No. 333-191688), originally filed with the SEC on October 11, 2013).
10.15†	Sublicense Agreement by and between Celladon Corporation and AmpliPhi Biosciences Corporation, dated June 27, 2012 (incorporated by reference to Exhibit 10.22 to the Registration Statement on Form S-1, as amended (File No. 333-191688), originally filed with the SEC on October 11, 2013).
10.16+	Letter Agreement by and between Celladon Corporation and Michael Narachi, dated October 16, 2013 (incorporated by reference to Exhibit 10.24 to the Registration Statement on Form S-1, as amended (File No. 333-191688), originally filed with the SEC on October 11, 2013).
10.17	Assignment and License Agreement by and between Celladon Corporation and Enterprise Management Partners, LLC dated July 18, 2014 (incorporated by reference to Exhibit 99.1 to the Current Report on Form 8-K filed with the SEC on July 21, 2014).
10.18+	Employment Agreement by and between Celladon Corporation and Paul Cleveland, dated May 28, 2014 (incorporated by reference to Exhibit 10.28 to the Registration Statement on Form S-1 (File No. 333-197720), originally filed with the SEC on July 30, 2014).
10.19+	Employment Agreement by and between Celladon Corporation and Elizabeth Reed, dated May 30, 2014 (incorporated by reference to Exhibit 10.29 to the Registration Statement on Form S-1 (File No. 333-197720), originally filed with the SEC on July 30, 2014).
10.20+	Summary of Retention Program of Celladon Corporation (incorporated by reference to Exhibit 10.1 to the Quarterly Report on Form 10-Q, filed with the SEC on August 11, 2015).

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<u>Exhibit Number</u>	<u>Description of Document</u>
10.21+	Amendment to Employment Agreement, dated May 27, 2015, by and between Celladon Corporation and Andrew Jackson (incorporated by reference to Exhibit 10.2 to the Quarterly Report on Form 10-Q, filed with the SEC on August 11, 2015).
10.22+	Amendment to Employment Agreement, dated May 29, 2015, by and between Celladon Corporation and Andrew Jackson (incorporated by reference to Exhibit 10.3 to the Quarterly Report on Form 10-Q, filed with the SEC on August 11, 2015).
10.23+	Amendment to Employment Agreement, dated May 29, 2015, by and between Celladon Corporation and Paul Cleveland (incorporated by reference to Exhibit 10.4 to the Quarterly Report on Form 10-Q, filed with the SEC on August 11, 2015).
10.24+	Amendment to Employment Agreement, dated May 27, 2015, by and between Celladon Corporation and Elizabeth Reed (incorporated by reference to Exhibit 10.5 to the Quarterly Report on Form 10-Q, filed with the SEC on August 11, 2015).
10.25+	Amendment to Employment Agreement, dated May 27, 2015, by and between Celladon Corporation and Fredrik Wiklund (incorporated by reference to Exhibit 10.6 to the Quarterly Report on Form 10-Q, filed with the SEC on August 11, 2015).
10.26+	Amendment to Employment Agreement, dated May 27, 2015, by and between Celladon Corporation and Rebecque Laba (incorporated by reference to Exhibit 10.8 to the Quarterly Report on Form 10-Q, filed with the SEC on August 11, 2015).
10.27+	Amendment to Employment Agreement, dated May 27, 2015, by and between Celladon Corporation and Krisztina M. Zsebo (incorporated by reference to Exhibit 10.10 to the Quarterly Report on Form 10-Q, filed with the SEC on August 11, 2015).
10.28+	Release Agreement, dated May 29, 2015, by and between Celladon Corporation and Krisztina M. Zsebo (incorporated by reference to Exhibit 10.11 to the Quarterly Report on Form 10-Q, filed with the SEC on August 11, 2015).
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10.32+	Amendment to Employment Agreement, dated October 20, 2015, by and between Celladon Corporation and Fredrik Wiklund (incorporated by reference to Exhibit 10.6 to the Quarterly Report on Form 10-Q, filed with the SEC on November 9, 2015).
10.33+	Amendment to Employment Agreement, dated October 20, 2015, by and between Celladon Corporation and Rebecque Laba (incorporated by reference to Exhibit 10.4 to the Quarterly Report on Form 10-Q, filed with the SEC on November 9, 2015).
10.34+	Bonus Agreement, dated as of November 18, 2015, by and between Celladon Corporation and Fredrik Wiklund (incorporated by reference to Exhibit 10.1 to the Current Report on Form 8-K, filed with the SEC on November 19, 2015).
10.35+	Bonus Agreement, dated as of November 18, 2015, by and between Celladon Corporation and Andrew Jackson (incorporated by reference to Exhibit 10.2 to the Current Report on Form 8-K, filed with the SEC on November 19, 2015).

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<u>Exhibit Number</u>	<u>Description of Document</u>
10.36+	Bonus Agreement, dated as of November 18, 2015, by and between Celladon Corporation and Elizabeth Reed (incorporated by reference to Exhibit 10.3 to the Current Report on Form 8-K, filed with the SEC on November 19, 2015).
10.37+	Merger Incentive Bonus Agreement, effective as of November 18, 2015, by and between Celladon Corporation and Fredrik Wiklund (incorporated by reference to Exhibit 10.35 to the Registration Statement on Form S-4, as amended (File No. 333-208521), originally filed with the SEC on December 14, 2015).
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10.48†	Asset Purchase Agreement, dated September 25, 2015, by and between Eiger BioPharmaceuticals, Inc. and Tracey McLaughlin and Colleen Craig (incorporated by reference to Exhibit 10.46 to the Registration Statement on Form S-4, as amended (File No. 333-208521), originally filed with the SEC on December 14, 2015).

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<u>Exhibit Number</u>	<u>Description of Document</u>
10.49†	Asset Purchase Agreement, dated October 29, 2015, by and between Eiccose, LLC and Eiger BioPharmaceuticals, Inc. (incorporated by reference to Exhibit 10.47 to the Registration Statement on Form S-4, as amended (File No. 333-208521), originally filed with the SEC on December 14, 2015).
10.50†	Exclusive Agreement, dated May 1, 2015, by and between Eiccose, LLC and the Board of Trustees of the Leland Stanford Junior University (incorporated by reference to Exhibit 10.48 to the Registration Statement on Form S-4, as amended (File No. 333-208521), originally filed with the SEC on December 14, 2015).
10.51†	Exclusive Agreement, dated October 27, 2015, by and between Eiccose, LLC and the Board of Trustees of the Leland Stanford Junior University (incorporated by reference to Exhibit 10.49 to the Registration Statement on Form S-4, as amended (File No. 333-208521), originally filed with the SEC on December 14, 2015).
10.52†	License Agreement, dated September 3, 2010, by and between Eiger BioPharmaceuticals, Inc. and Merck Corporation (incorporated by reference to Exhibit 10.50 to the Registration Statement on Form S-4, as amended (File No. 333-208521), originally filed with the SEC on December 14, 2015).
10.53†	License Agreement, effective as of December 19, 2014, by and between EB Pharma, LLC and Janssen Pharmaceutica NV (incorporated by reference to Exhibit 10.51 to the Registration Statement on Form S-4, as amended (File No. 333-208521), originally filed with the SEC on December 14, 2015).
10.54†	License Agreement, dated as of May 1, 2015, by and between Eiccose, LLC and Nippon Kayaku Co., Ltd. (incorporated by reference to Exhibit 10.52 to the Registration Statement on Form S-4, as amended (File No. 333-208521), originally filed with the SEC on December 14, 2015).
10.55	Sublease Agreement, dated as of January 8, 2016, by and between Baker Hughes Oilfield Operations, Inc. and Eiger BioPharmaceuticals, Inc. (incorporated by reference to Exhibit 10.53 to the Registration Statement on Form S-4, as amended (File No. 333-208521), originally filed with the SEC on December 14, 2015).
21.1	List of subsidiaries.
23.1	Consent of Independent Registered Public Accounting Firm.
24.1	Power of Attorney. Reference is made to the signature page hereto.
31.1	Certification of the Principal Executive Officer pursuant to Rule 13a-14(a) or 15d-14(a) of the Securities Exchange Act of 1934.
31.2	Certification of the Principal Financial Officer pursuant to Rule 13a-14(a) or 15d-14(a) of the Securities Exchange Act of 1934.
32.1	Certification of the Principal Executive Officer pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002.
32.2	Certification of the Principal Financial Officer pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002.
101.INS	XBRL Instance Document
101.SCH	XBRL Taxonomy Extension Schema Document
101.CAL	XBRL Taxonomy Extension Calculation Linkbase Document
101.DEF	XBRL Taxonomy Extension Definition Linkbase Document
101.LAB	XBRL Taxonomy Extension Label Linkbase Document
101.PRE	XBRL Taxonomy Extension Presentation Linkbase Document

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+ Indicates management contract or compensatory plan.

† Confidential treatment has been granted with respect to certain portions of this exhibit. Omitted portions have been filed separately with the SEC.

Subsidiaries of Registrant

Name of Subsidiary

Jurisdiction of Incorporation

EBPI Merger, Inc.

Delaware

CONSENT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

We consent to the incorporation by reference in the following Registration Statements:

- (1) Registration Statement (Form S-3 No. 333-203153) of Celladon Corporation,
- (2) Registration Statement (Form S-8 No. 333-203154) pertaining to the 2013 Equity Incentive Plan, 2013 Employee Stock Purchase Plan and Inducement Grants, and
- (3) Registration Statement (Form S-8 No. 333-193662) pertaining to the 2001 Stock Option Plan, 2012 Equity Incentive Plan, 2013 Equity Incentive Plan, and 2013 Employee Stock Purchase Plan;

of our report dated March 30, 2016, with respect to the consolidated financial statements of Celladon Corporation included in this Annual Report (Form 10-K) of Eiger BioPharmaceuticals, Inc. (formerly Celladon Corporation) for the year ended December 31, 2015.

/s/ Ernst & Young LLP

San Diego, California
March 30, 2016

**CERTIFICATION OF PRINCIPAL EXECUTIVE OFFICER
PURSUANT TO RULE 13a-14(a) AND 15d-14(a) OF THE SECURITIES EXCHANGE ACT, AS ADOPTED PURSUANT TO SECTION 302 OF THE
SARBANES-OXLEY ACT OF 2002**

I, David Cory, certify that:

1. I have reviewed this Annual Report on Form 10-K of Eiger BioPharmaceuticals, Inc.;
2. Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report;
3. Based on my knowledge, the financial statements, and other financial information included in this report, fairly present in all material respects the financial condition, results of operations and cash flows of the registrant as of, and for, the periods presented in this report;
4. The registrant's other certifying officer and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) and internal control over financial reporting (as defined in Exchange Act Rules 13a-15(f) and 15d-15(f)) for the registrant and have:
 - a. Designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the registrant, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared;
 - b. Designed such internal control over financial reporting, or caused such internal control over financial reporting to be designed under our supervision, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles;
 - c. Evaluated the effectiveness of the registrant's disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; and
 - d. Disclosed in this report any change in the registrant's internal control over financial reporting that occurred during the registrant's most recent fiscal quarter (the registrant's fourth fiscal quarter in the case of an annual report) that has materially affected, or is reasonably likely to materially affect, the registrant's internal control over financial reporting; and
5. The registrant's other certifying officer and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the registrant's auditors and the audit committee of the registrant's board of directors (or persons performing the equivalent functions):
 - a. All significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the registrant's ability to record, process, summarize and report financial information; and
 - b. Any fraud, whether or not material, that involves management or other employees who have a significant role in the registrant's internal control over financial reporting.

Date: March 30, 2016

/s/ David Cory

David Cory
President and Chief Executive Officer
(Principal Executive Officer)

**CERTIFICATION OF PRINCIPAL FINANCIAL OFFICER
PURSUANT TO RULE 13a-14(a) AND 15d-14(a) OF THE SECURITIES EXCHANGE ACT, AS ADOPTED PURSUANT TO SECTION 302 OF THE
SARBANES-OXLEY ACT OF 2002**

I, James Welch, certify that:

1. I have reviewed this Annual Report on Form 10-K of Eiger BioPharmaceuticals, Inc.;
2. Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report;
3. Based on my knowledge, the financial statements, and other financial information included in this report, fairly present in all material respects the financial condition, results of operations and cash flows of the registrant as of, and for, the periods presented in this report;
4. The registrant's other certifying officer and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) and internal control over financial reporting (as defined in Exchange Act Rules 13a-15(f) and 15d-15(f)) for the registrant and have:
 - a. Designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the registrant, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared;
 - b. Designed such internal control over financial reporting, or caused such internal control over financial reporting to be designed under our supervision, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles;
 - c. Evaluated the effectiveness of the registrant's disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; and
 - d. Disclosed in this report any change in the registrant's internal control over financial reporting that occurred during the registrant's most recent fiscal quarter (the registrant's fourth fiscal quarter in the case of an annual report) that has materially affected, or is reasonably likely to materially affect, the registrant's internal control over financial reporting; and
5. The registrant's other certifying officer and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the registrant's auditors and the audit committee of the registrant's board of directors (or persons performing the equivalent functions):
 - a. All significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the registrant's ability to record, process, summarize and report financial information; and
 - b. Any fraud, whether or not material, that involves management or other employees who have a significant role in the registrant's internal control over financial reporting.

Date: March 30, 2016

/s/ James Welch

James Welch
Chief Financial Officer
(Principal Financial Officer)

**CERTIFICATION PURSUANT TO 18 U.S.C. SECTION 1350,
AS ADOPTED PURSUANT TO
SECTION 906 OF THE SARBANES-OXLEY ACT OF 2002**

I, David Cory, President and Chief Executive Officer of Eiger BioPharmaceuticals, Inc. (the "Registrant"), do hereby certify in accordance with 18 U.S.C. 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002, that, based upon my knowledge:

(1) this Annual Report on Form 10-K of the Registrant, to which this certification is attached as an exhibit (the "Report"), fully complies with the requirements of Section 13(a) or 15(d) of the Securities Exchange Act of 1934 (15 U.S.C. 78m); and

(2) the information contained in the Report fairly presents, in all material respects, the financial condition and results of operations of the Registrant.

Date: March 30, 2016

/s/ David Cory

David Cory

President and Chief Executive Officer

This certification accompanies the Form 10-K to which it relates, is not deemed filed with the Securities Exchange Commission and is not incorporated by reference into any filing of the Registrant under the Securities Act of 1933, as amended, or the Securities Exchange Act of 1934, as amended (whether made before or after the date of the Form 10-K), irrespective of any general incorporation language contained in such filing.

CERTIFICATION PURSUANT TO SECTION 906 OF THE SARBANES-OXLEY ACT OF 2002

I, James Welch, Chief Financial Officer of Eiger BioPharmaceuticals, Inc. (the "Registrant"), do hereby certify in accordance with 18 U.S.C. 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002, that, based upon my knowledge:

(1) this Annual Report on Form 10-K of the Registrant, to which this certification is attached as an exhibit (the "Report"), fully complies with the requirements of Section 13(a) or 15(d) of the Securities Exchange Act of 1934 (15 U.S.C. 78m); and

(2) the information contained in the Report fairly presents, in all material respects, the financial condition and results of operations of the Registrant.

Date: March 30, 2016

/s/ James Welch

James Welch

Chief Financial Officer

This certification accompanies the Form 10-K to which it relates, is not deemed filed with the Securities Exchange Commission and is not incorporated by reference into any filing of the Registrant under the Securities Act of 1933, as amended, or the Securities Exchange Act of 1934, as amended (whether made before or after the date of the Form 10-K), irrespective of any general incorporation language contained in such filing.